

Service Manual

ORDER NO.
ARP3521

FLAT SCREEN TV

PDP-LX5090H

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-LX5090H	YSIXK7	AC 220 V to 240 V	
PDP-LX5090H	WYS7	AC 220 V to 240 V	

This service manual should be used together with the following manual(s).

Model No.	Order No.	Remarks
PDP-LX5090/WYSIXK5	ARP3480	EXPLODED VIEWS, BLOCK DIAGRAM, ADJUSTMENT, etc
PDP-LX5090H/YSIXK5	ARP3492	Part of the MTB block (mainly the MAIN Assy)

To distinguish a new model from a base model, confirm the serial number.

	Model Name	Serial No.
New Models	PDP-LX5090H/YSIXK7, WYS7	&&&&1XXXXX&&
Base Models	PDP-LX5090H/YSIXK5, WYS5	&&&&0XXXXX&&

&: Alphabetics X: Numerics

- The new models had adapted a new glass panel that has different characteristic from those of the base models. The DIGITAL Assy and Service Panel Assy for the base models and new models are different. Therefore, when these parts are to be replaced, be sure to use the parts that are specified in this manual. If the parts for the base models are accidentally used in the new models, it may result in abnormal electrical discharge or reduction in life expectancy of the Panel.
- Adjustments required after replacement with the Panel for service are also different between the base models and new models.
Be sure to follow the instructions of this manual when performing such adjustments.

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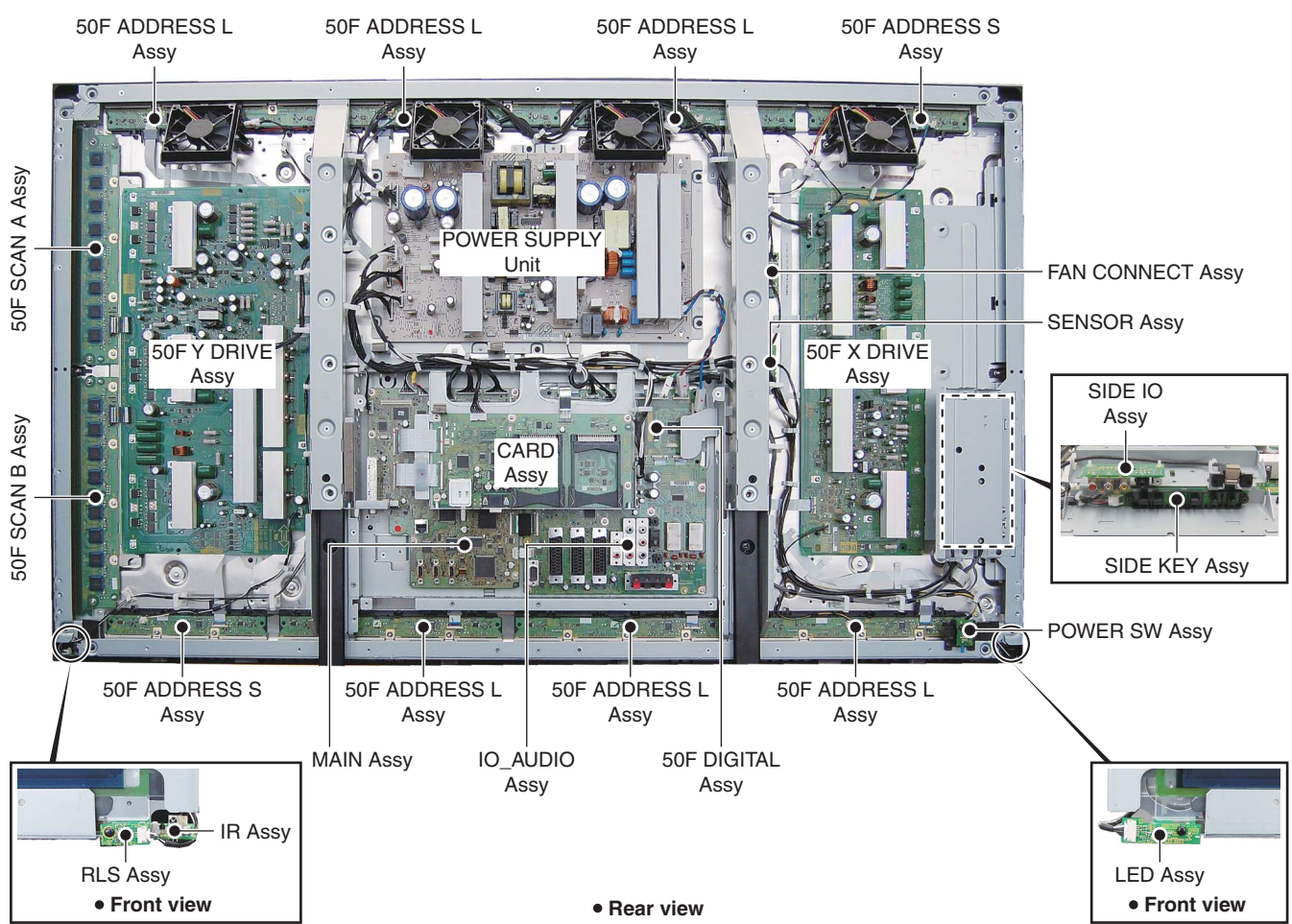
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1. BASIC ITEM FOR SERVICE

1.1 PCB LOCATION

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.



NOTES: • Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
• The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Mark No.	Description	Part No.	Mark No.	Description	Part No.
LIST OF ASSEMBLIES					
NSP	50F ADDRESS L ASSY	AWW1348	⚠	MAIN ASSY *1	AWV2556
NSP	50F ADDRESS S ASSY	AWW1349		IO_AUDIO ASSY	AWW1354
NSP	50F SCAN A ASSY	AWW1350		SIDE IO ASSY	AWW1358
	└ IC2801 - IC2808	AN16184A		SIDE KEY ASSY	AWW1361
NSP	50F SCAN B ASSY	AWW1351		LED ASSY	AWW1362
	└ IC2901 - IC2908	AN16184A		IR ASSY	AWW1363
	SENSOR ASSY	AWW1340		FAN CONNECT ASSY	AWW1364
*2	50F DIGITAL ASSY	AWW1368		RLS ASSY	AWW1365
	50F X DRIVE ASSY	AWV2546		POWER SW ASSY	AWW1366
	50F Y DRIVE ASSY	AWV2547		CARD ASSY *1	AWV2558
			⚠	POWER SUPPLY UNIT	AXY1200
			*2	PDP SERVICE ASSY 509FE	AWU1342

*1: These Assys are for PDP-LX5090H model use.
*2: These Assys are different parts from PDP-LX5090H/YSIXK5.

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SERVICE FACTORY MODE for PDP-LX5090H/YSIXK7, WYS7 is the same as YSIXK5 except for the following:

[1-1] VERSION (1)

	1	5	10	15	20	25	30	35	40
1			I N F O R M A T I O N		A V 1 - 1 0 5 0 1 - P L V - E H B				
			V E R S I O N (1)						
5			I / F		- 0 7 A		0 1 A		
			M A I N		- 0 2 E H 1		= 0 1 E		
			M U L T I A G C		1 0 7 8 - A				
			P R S		- 0 2 A		0 1 A		
			P I C		- 0 2 A				
10			D T U N E R		- 0 2 E		0 1 E		
			M O D U L E		- 0 6 A		0 1 A		
			S E Q P R S		- 0 3 U		0 1 U		
15			P A N E L I N F O		G 9 _ 5 0 F _ 2				
16									

Display Item	Meaning	Display Example (Program)	Display Example (Boot)
I/F	I/F microcomputer	-07A	01A
MAIN	Main microcomputer	-02EH_1	=01E
MULTI AGC	AGC data of Multi processor	1078-A	
MULTI PRS	Program of Multi processor	-02A	01A
MULTI PIC	Picture quality data of Multi processor	-02A	
DTUNER (*1)	Software program of the Digital tuner	-02E	01E
MODULE	Module microcomputer	-06A	01A
SEQ PRS	Program of Sequence processor	-03U	01U
Display Item	Meaning		
PANEL INFO	It displays the generation of the panel, inchage and the type of the panel. For details on display values and settings, see "10: Panel Information" in "5.9 [1] QS1 (PANEL STATUS)."		

(*1): PDP-LX5090H only

5. EACH SETING AND ADJUSTMENT

EACH SETTING AND ADJUSTMENT for PDP-LX5090H/YSIXK7, WYS7 is the same as YSIXK5 except for the following:

5.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

When any of the following assemblies is replaced

Service Panel Assy

➡

Refer to “5.2 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED”.

CARD Assy

➡

No adjustment required

OTHER assemblies

➡

Refer to “8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED” on ARP3480.

When any of the following assemblies is repaired

Notes on replacing parts
For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2556	MAIN Assy	IC5002	EEPROM	BR24L02FV-W
		IC5003	EEPROM	BR24L02FV-W
		IC5004	EEPROM	BR24L02FV-W
		IC6001	System IC	BCM7404XKPB11G
		IC7004	EEPROM	BR24L64F-W
		IC6201	DDR SDRAM	EDD5116AFTA-5B-E
		IC6202	DDR SDRAM	EDD5116AFTA-5B-E
		IC6203	DDR SDRAM	EDD5116AFTA-5B-E
		IC6204	DDR SDRAM	EDD5116AFTA-5B-E
		IC6403	Flash ROM	AGC1083
		IC6701	Flash ROM	AGC1079
		IC6811	Flash UCOM	AGC1072
		IC7202	Flash ROM	AGC1074
AWV2559	DIGITAL Assy	IC3302	Flash ROM	AGC1096
		IC3601	Flash UCOM	AGC1095
AWV2558	CARD Assy	IC9602	EEPROM	BR24L01AFJ-W
AWV2546	X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWV2547	Y DRIVE Assy	• Parts of Y VF D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 2		

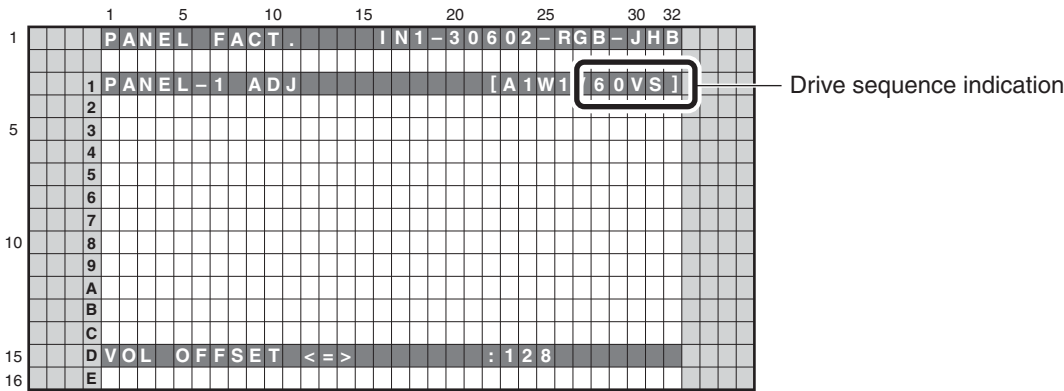
Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

After the panel is replaced with one for service, voltage margin adjustment is required.

[Preparation]

Basically, voltage margin adjustment is performed using the Panel Factory menu.
After the panel is replaced and the unit is turned on, clear the pulse meter first.
For details on how to clear the pulse meter, see "8.3 HOW TO CLEAR HISTORY DATA".

- *1: As various corrections are made referring to the pulse-meter count to calculate how long the panel has been used, if adjustment of the panel for service is performed without clearing the pulse-meter count, proper adjustments will not be performed.
- *2: The drive sequence for Video 60-Hz is used for adjustment. When adjustment is made using the Panel Factory menu, the current drive sequence is displayed on the screen, as shown in the figure below. Make sure that 60VS is always indicated during adjustment.



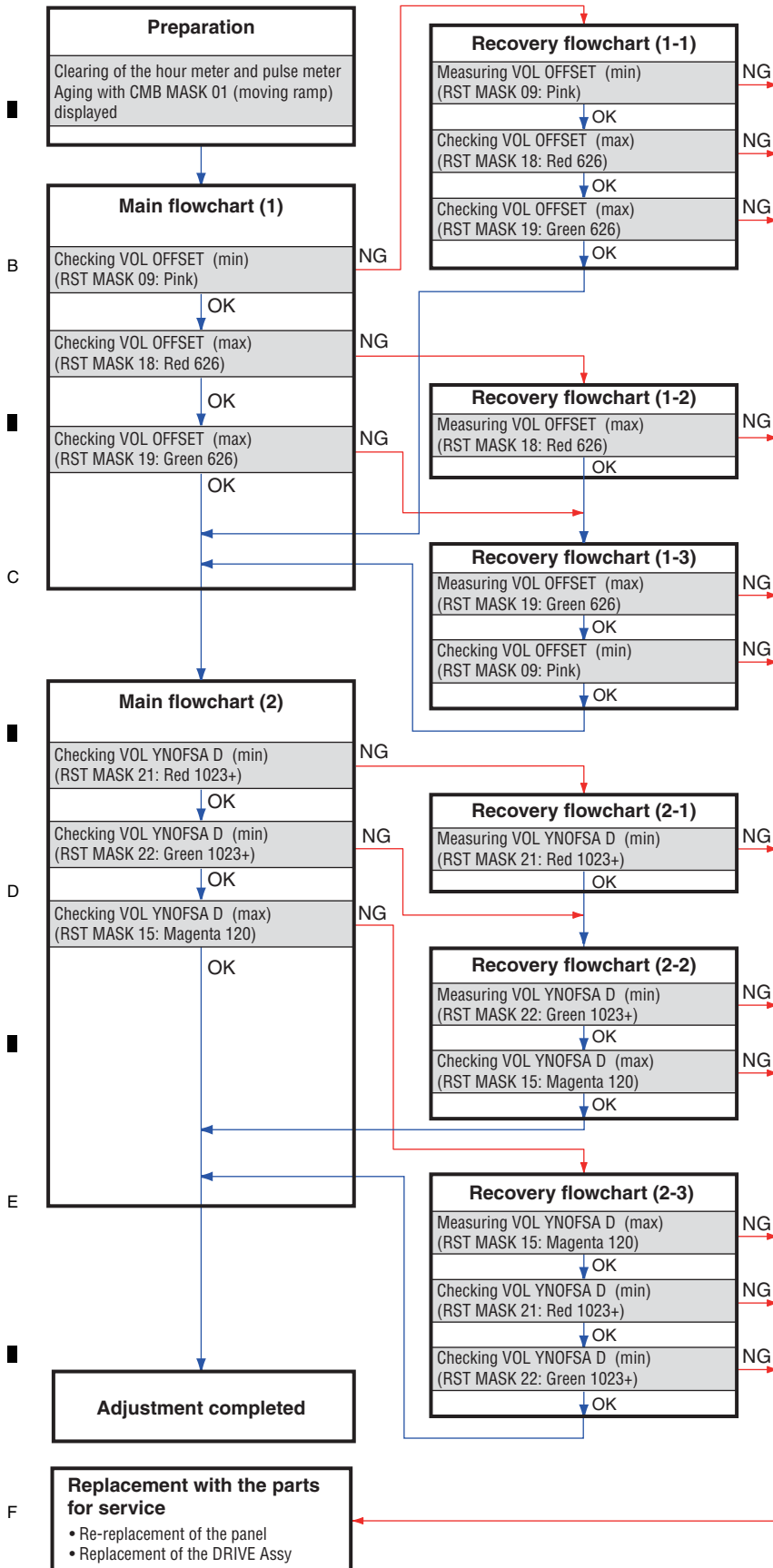
Example of the On-Screen display during Panel Factory mode

[Supplement]

In the "PANEL-1ADJ" layer, the Panel White Balance value is reset to default, Panel Gamma is set to Straight, Noise is set to OFF, LUT mode is set to ON and Reset active control is set to OFF.
If adjustment is performed using RS232C commands, unlike the case of Factory menu operation, adjustments are not interlocked. Therefore, settings must be performed individually, by issuing commands. (See the section on preparations before adjustment.)

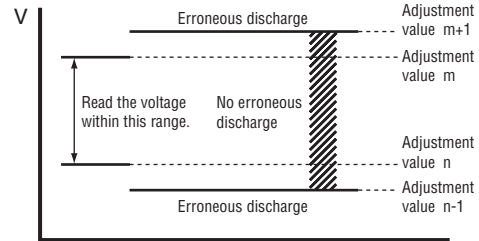
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Overview



Range of margin measuring

Read the voltage within the hysteresis (stricter value).



Definition of limits for the voltage margins (abnormal lit/dead cells)

Abnormal lit cells:

- Five or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

Abnormal dead cells

- Fifteen or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

*: Abnormal cells visually recognizable at a distance of 1 meter from the panel must be counted.

*: Cells displayed abnormally for less than one second are not counted as abnormal cells.

Definition of tones for the measuring signals

FHD signal (1920*1080)/Video 60-Hz sequence
/Dither: ON, L dither: ON, noise: OFF

Pink	RST MASK 09 (R 1023 /G 626 /B 1023)
Magenta 120	RST MASK 15 (R 120 /G 0 /B 120)
Red 626	RST MASK 18 (R 626 /G 0 /B 0)
Green 626	RST MASK 19 (R 0 /G 626 /B 0)
Blue 626	RST MASK 20 (R 0 /G 0 /B 626)
Red 1023+	RST MASK 21 (R 1023 /G 120 /B 120)
Green 1023+	RST MASK 22 (R 120 /G 1023 /B 120)
Blue 1023+	RST MASK 23 (R 120 /G 120 /B 1023)

Interlocked settings for Voltages Vyknofs1/3/4

For the 9th-generation PDPs, interlocked setting for Voltages Vyknofs1/3/4 is available on the Factory menu or with RS232C commands, for easier adjustment. Therefore, in the adjustment flowchart, the interlocked setting function is used. (Individual setting for each adjustment value is also possible, as in the conventional setting methods.

Set Voltage	Factory Menu	Command
Vyknofs1 individual	VOL YNOFS1 D	[V1F]
Vyknofs3 individual	VOL YNOFS3 D	[V3F]
Vyknofs4 individual	VOL YNOFS4 D	[V4F]
Vyknofs1,3,4 interlocked	VOL YNOFSA D	[VYF]

Note:

- The initial value for the interlocked setting value is 128, including for factory preset values.
- See "[3] DRIVE ASSY" of "5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS" for calculation of actually used voltage values.

Preparation before adjustment

[Replacement with the panel for service is completed.]

Procedures for resetting corrections for change over time

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Set PM/B1-B5 to CLEAR (to clear the pulse meter). / [CPM]

Set HR-MTR to CLEAR (to clear the hour meter). / [CHM]

Turn the unit off. / [POF]

Procedures for stabilizing the panel before adjustment

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Enter the tentative setting value of the replacement panel

Setting Item	Tentative Setting Value
VOL SUS / [VSU ***]	128
VOL OFFSET / [VOF ***]	VOF indication value
VOL RST P / [VRP ***]	VRP indication value
VOL XPOFS1 / [VX1 ***]	085
VOL XPOFS2 / [VX2 ***]	063
VOL YNOFS1 D / [V1F ***]	V1F indication value
VOL YNOFS3 D / [V3F ***]	V3F indication value +0
VOL YNOFS4 D / [V4F ***]	V4F indication value
VOL YNOFSA D / [VYF ***]	128

Note: "+0" shows α .

Display CMB MASK 01 (moving ramp). / [MKC S01]

Select Video 60-Hz sequence. / [VFQ S03]

Perform aging for 30 minutes.

[To the Main flowchart (1)]

* To reflect the results of log clearing for each correction function, the unit must be turned off then back on again. Before adjustment, be sure to turn the unit off then back on again.

Indication example of the adjustment label of service panel

AWU1359 Data VOF=113
VRP=018 V1F=138 V3F=128+ α
V4F=149 Hour Meter _____ H
 Data 08/02/28 Chassis CXX99999
 Time 18:27 Pnl FD4A0808100123

Note: The symbol " α " denotes the adjustment value plus 0.

* Each setting value described on the adjustment label denotes an indicated data value but not a real voltage value. Therefore, just enter the data value as a setting value.

* To store the VFQ S03 command in memory, transmit it after displaying the mask.

Note:

* When you perform the adjustment with RS232C commands, issue the following commands in addition.

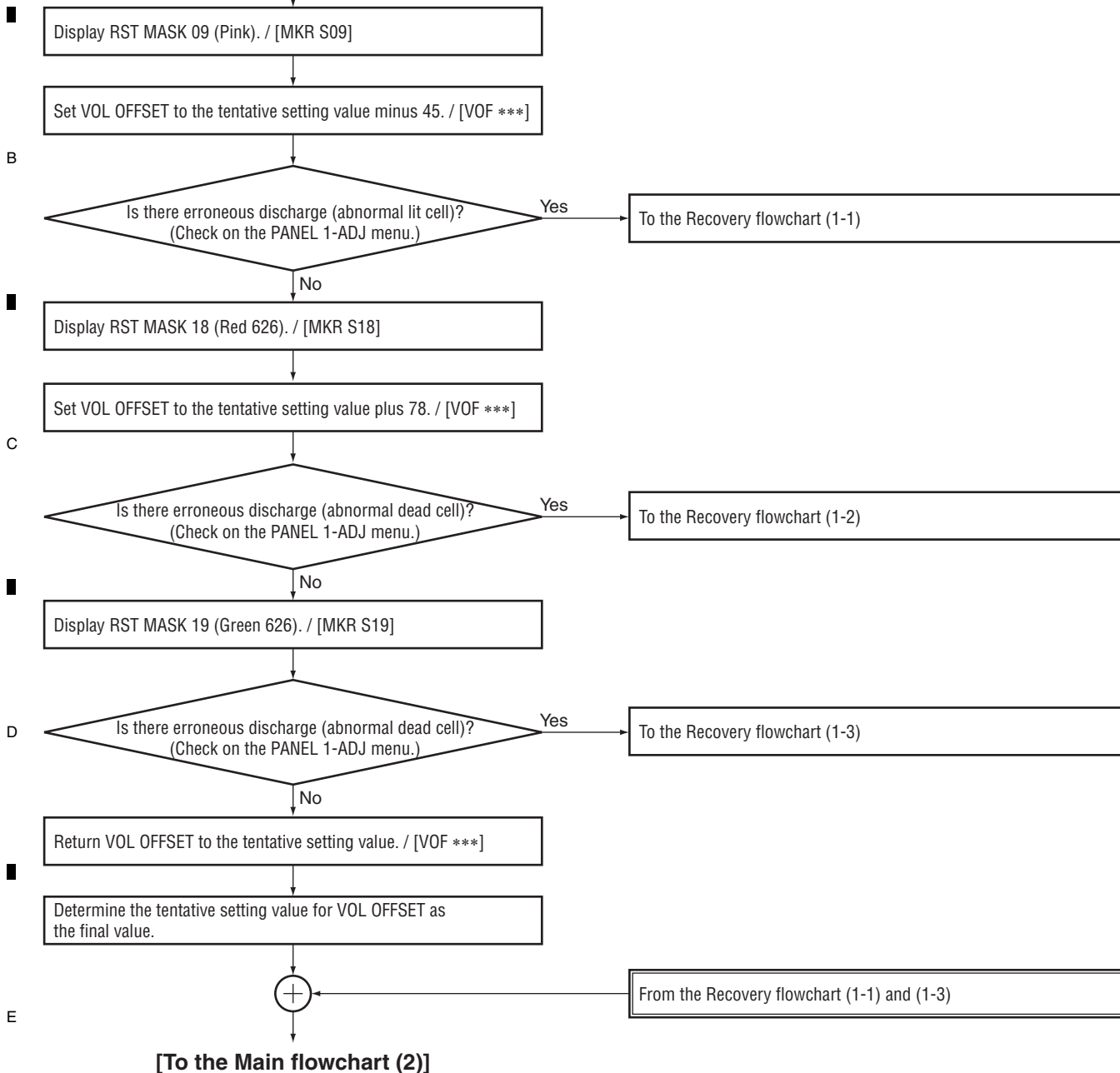
* If the unit is shut down in the middle of performing the adjustment flowchart, reissuing of the command is required.

[PAV S00]	: To set panel drive mode to Factory
[VFQ S03]	: To set Drive Sequence to Video 60-Hz
[SQM S01]	: To set Drive Sequence to Video
[WBI S01]	: To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
[PGR S00]	: To set the gamma R value to that for Factory mode
[PGG S00]	: To set the gamma G value to that for Factory mode
[PGB S00]	: To set the gamma B value to that for Factory mode
[DIZ S03]	: Dither ON, L dither ON, noise OFF.
[\$1800000001]	: LUT mode ON

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■ Main flowchart (1)...Checking VOL OFFSET

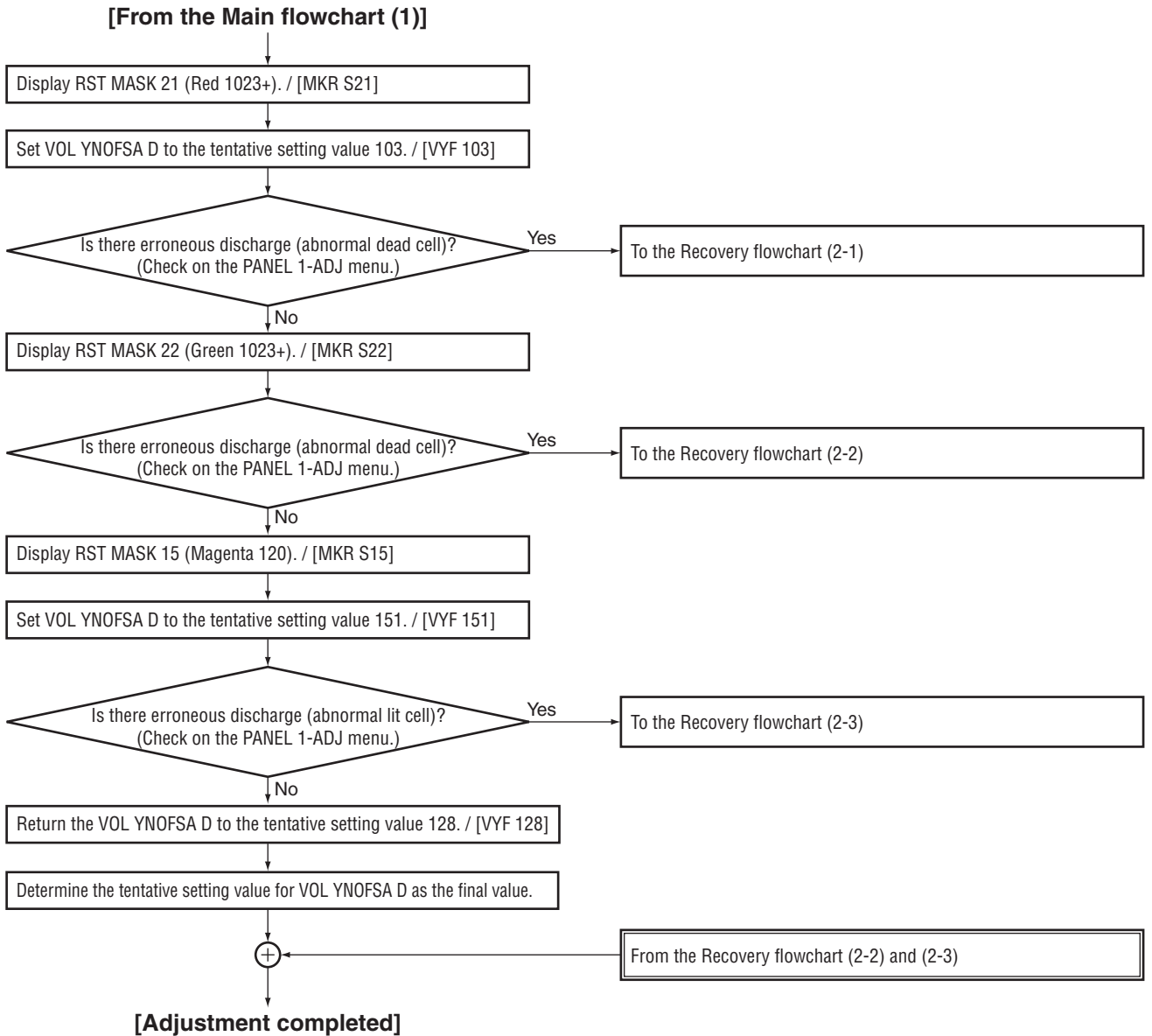
[From Preparation]



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■ Main flowchart (2)...Checking VOL YNOFSA D



Note:

Make sure that the following values become the final setting values.

VOL SUS *1	VOL XPOSF2 *1
VOL OFFSET	VOL YNOFS1 D *1
VOL RST P *1	VOL YNOFS3 D *1
VOL XPOFS1 *1	VOL YNOFS4 D *1
	VOL YNOFS4 A

*1: The tentative setting value becomes the final value.

Recovery flowchart (1-1)...Changing the VOL OFFSET setting

[From the Main flowchart (1)]

RST MASK 09 (Pink)

Gradually increase the VOL OFFSET value until disappear the discharge (lit cell).
The VOL OFFSET value must be 101 or less.

Current VOL OFFSET > 096?

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 18 (Red 626). / [MKR S18]

Set VOL OFFSET to the current setting value plus 123. / [VOF ***]

Is there erroneous discharge (abnormal dead cell)?
(Check on the PANEL 1-ADJ menu.)

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 19 (Green 626). / [MKR S19]

Is there erroneous discharge (abnormal dead cell)?
(Check on the PANEL 1-ADJ menu.)

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

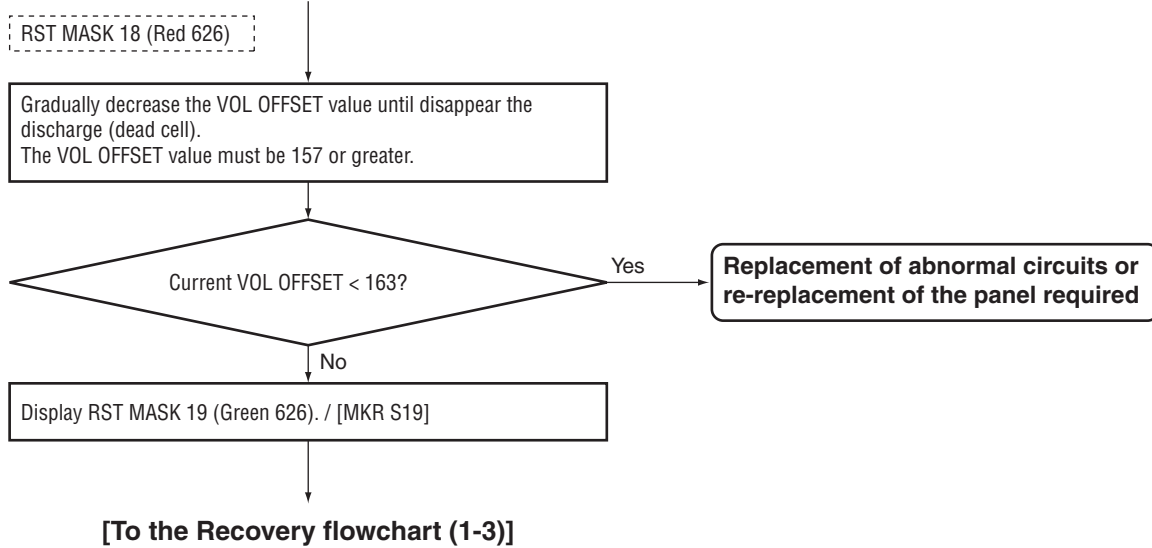
Set VOL OFFSET to the current setting value minus 78. / [VOF ***]

Determine the current VOL OFFSET setting value as the final value.

[To the Main flowchart (1)]

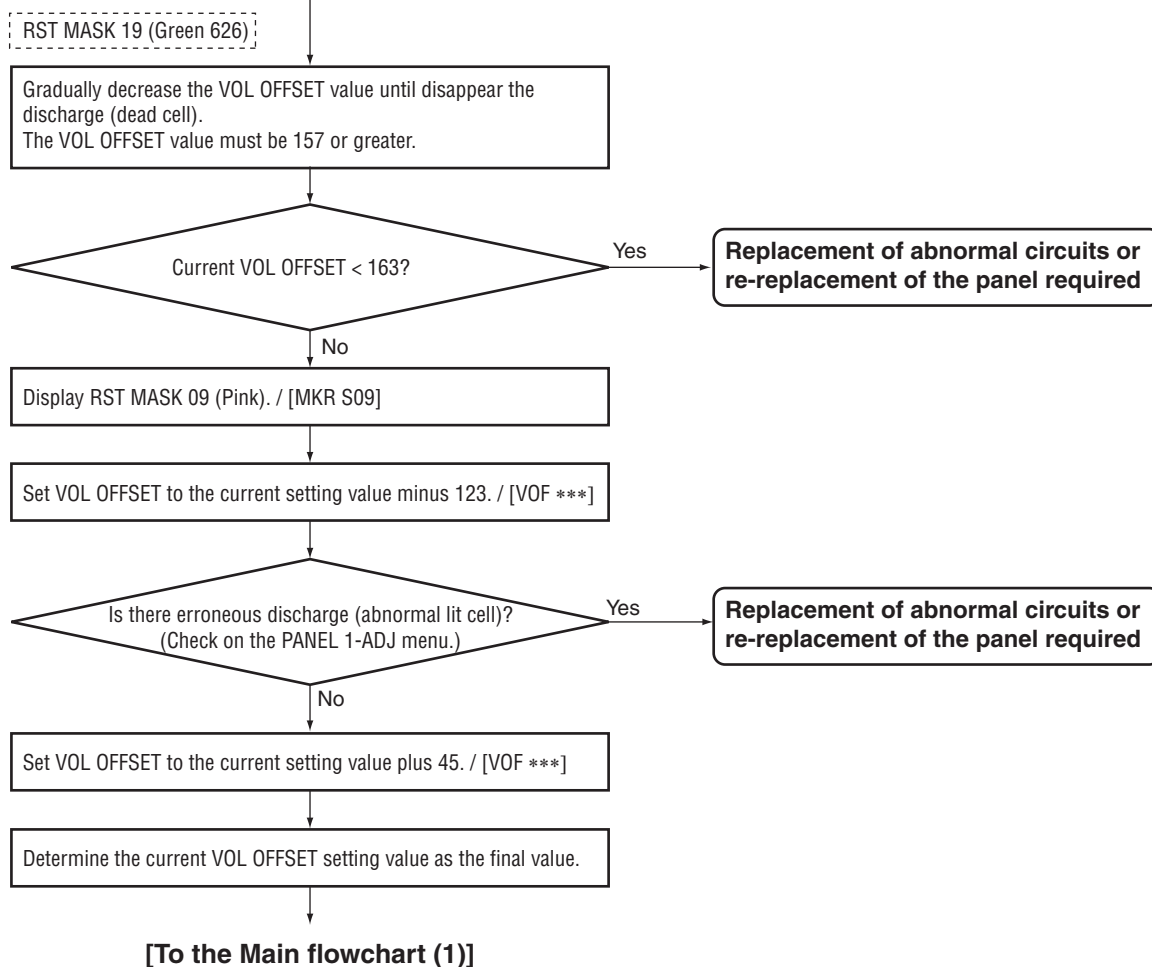
Recovery flowchart (1-2)...Changing the VOL OFFSET setting

[From the Main flowchart (1)]



Recovery flowchart (1-3)...Changing the VOL OFFSET setting

[From the Main flowchart (1) / Recovery flowchart (1-2)]



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Recovery flowchart (2-1)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2)]

RST MASK 21 (Red 1023+)

Gradually increase the VOL YNOFSA D value until disappear the discharge (dead cell).
The tentative setting value of VOL YNOFS3 D + current setting value of VOL YNOFSA D must be 254 or less.

B

Tentative setting value of VOL YNOFS3 D + current setting value of VOL YNOFSA D > 252?

Yes

Replacement of abnormal circuits or re-replacement of the panel required

No

Display RST MASK 22 (Green 1023+). / [MKR S22]

[To the Recovery flowchart (2-2)]

C

Recovery flowchart (2-2)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2) / Recovery flowchart (2-1)]

RST MASK 22 (Green 1023+)

Gradually increase the VOL YNOFSA D value until disappear the discharge (dead cell).
The tentative setting value of VOL YNOFS3 D + current setting value of VOL YNOFSA D must be 254 or less.

D

Tentative setting value of VOL YNOFS3 D + current setting value of VOL YNOFSA D > 252?

Yes

Replacement of abnormal circuits or re-replacement of the panel required

No

Display RST MASK 15 (Magenta 120). / [MKR S15]

E

Set VOL YNOFSA D to the current setting value plus 48. / [VYF ***]

Is there erroneous discharge (abnormal lit cell)?
(Check on the PANEL 1-ADJ menu.)

Yes

Replacement of abnormal circuits or re-replacement of the panel required

No

Set VOL YNOFSA D to the current setting value minus 23. / [VYF ***]

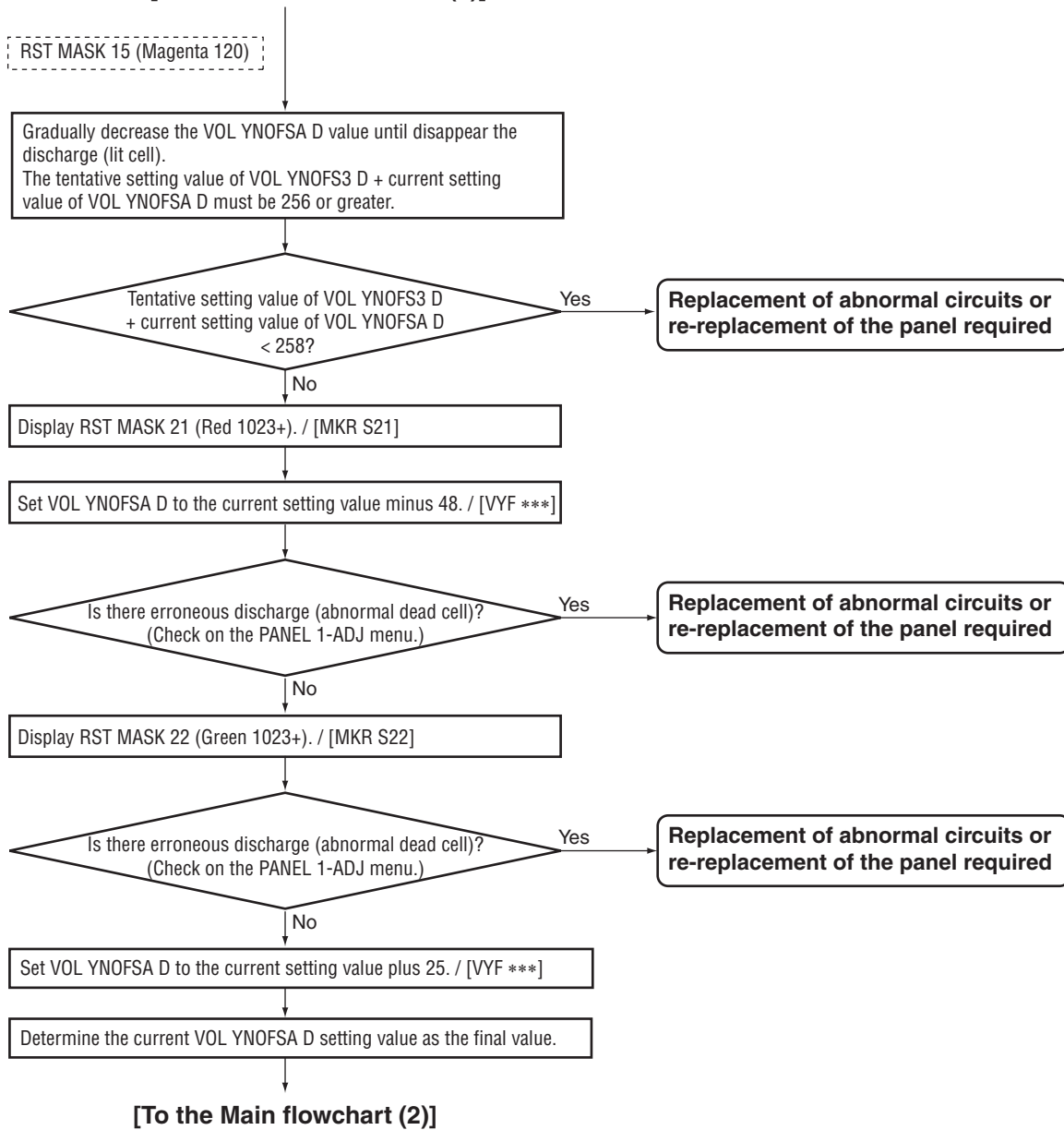
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Determine the current VOL YNOFSA D setting value as the final value.

[To the Main flowchart (2)]

Recovery flowchart (2-3)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2)]





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


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6. EXPLODED VIEWS AND PARTS LIST

EXPLODED VIEWS AND PARTS LIST for PDP-LX5090H/YSIXK7, WYS7 is the same as YSIXK5 except for the following:

- NOTES:**
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 - The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - Screws adjacent to  mark on product are used for disassembly.
 - For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)
 - Nos. indicate the pages and Nos. in the service manual for the base model.

6.1 PACKING SECTION

PDP-LX5090H/YSIXK5, YSIXK7 and WYS7 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX5090H/ YSIXK5	PDP-LX5090H/ YSIXK7	PDP-LX5090H/ WYS7	Remarks
NSP		P59-2 Power Cable (2 m)	ADG1223	ADG1223	Not used	
	P59-9	Operating Instructions (English / French / German)	ARE1490	ARE1490	Not used	
	P59-10	Operating Instructions (Italian / Dutch / Spanish / Russian)	ARC1604	ARC1604	Not used	
	P59-11	Operating Instructions (Russian)	Not used	Not used	ARC1617	
	P59-12	Caution Card	ARM1310	ARM1310	ARM1232	
	P59-13	Cleaning Caution PTK	ARM1311	ARM1311	Not used	
	P59-13	Cleaning Caution (11L)	Not used	Not used	ARM1283	
	P59-14	Block Diagram (509)	ARY1210	ARY1210	Not used	
	P59-15	Warranty Card EU	ARY7129	ARY7129	ARY7127	
	P59-19	Power Cord Lid (5090)	AHC1113	AHC1113	AHC1114	
	P59-20	Pad (509 T-L EU)	AHA2714	AHA2714	AHA2727	
	P59-21	Pad (509 T-R EU)	AHA2715	AHA2715	AHA2728	
	P59-22	Pad (509 B-L EU)	AHA2716	AHA2716	AHA2729	
	P59-23	Pad (509 B-R EU)	AHA2726	AHA2726	AHA2730	
	P59-24	Upper Carton (5090H)	AHD3697	AHD3746	AHD3698	
	P59-25	Under Carton (5090)	AHD3672	AHD3672	AHD3673	
	P59-27	HD Sheet	AHG1416	AHG1416	Not used	
	P59-28	Carton Board (509)	Not used	Not used	AHB1303	
	P59-29	Ferrite Core Info.	ARM1396	ARM1396	ARM1395	
	P59-31	WMDRM Information	Not used	Not used	ARM1404	

6.2 RAER SECTION

PDP-LX5090H/YSIXK5, YSIXK7 and WYS7 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX5090H/ YSIXK5	PDP-LX5090H/ YSIXK7	PDP-LX5090H/ WYS7	Remarks
NSP	P61-17	Inner Grip Assy	AMR3693	AMR3693	AMR3434	
	P61-26	Name Label (LX5090H)	AAL3032	AAL3032	AAL3034	

6.3 CHASSIS SECTION (2/2)

PDP-LX5090H/YSIXK5, YSIXK7 and WYS7 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX5090H/ YSIXK5	PDP-LX5090H/ YSIXK7	PDP-LX5090H/ WYS7	Remarks
	P179-2	50F DIGITAL Assy	AWW1347	AWW1368	AWW1368	

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6.4 PANEL CHASSIS SECTION

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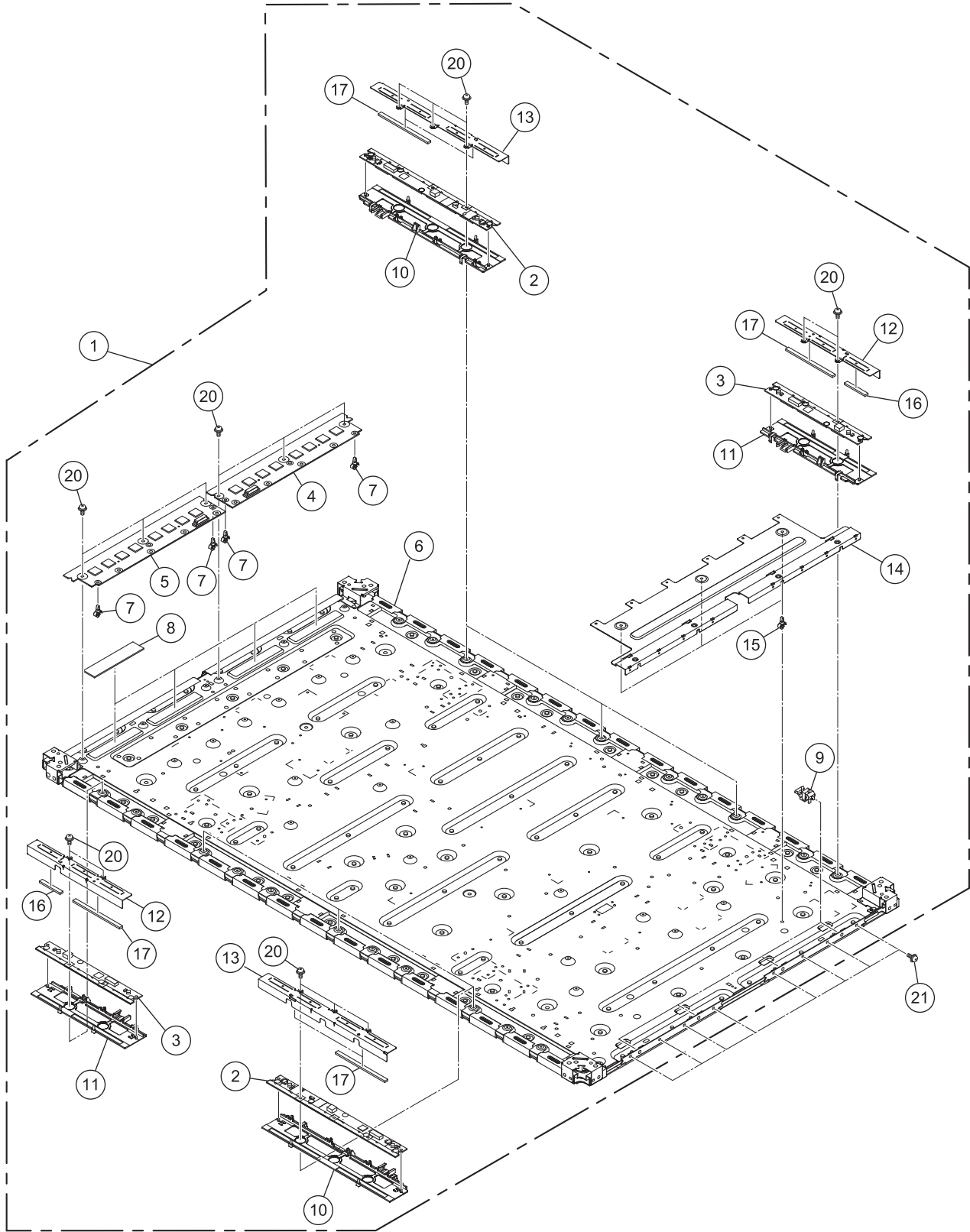
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		5		6		7		8	
(1) PANEL CHASSIS SECTION PARTS LIST									
	Mark No.	Description	Part No.		Mark No.	Description		Part No.	
	NSP 1	P. Chassis (509FE) Assy	See Contrast table (2)		11	Holder S Assy (509)		AMR3776	
	NSP 2	50F ADDRESS L Assy	AWW1348		12	Address Plate S (509)		ANG3129	A
	NSP 3	50F ADDRESS S Assy	AWW1349		13	Address Plate L (509)		ANG3130	
	NSP 4	50F SCAN A Assy	AWW1350		14	Plate X (509)		ANG3128	
	NSP 5	50F SCAN B Assy	AWW1351		15	PCB Spacer (Reuse)		AEC2122	
	NSP 6	P. Panel (50FE) Assy	AWU1349		16	Address Silicon TS		AEH1160	
	7	Reuse PCB Spacer 4.5	AEC2148		17	Address Silicon TL		AEH1161	
	8	Heat Radiation Sheet	AEH1134		18	•••••			
	9	Plate Holder	AMR3757		19	•••••			
	10	Holder L Assy (509)	AMR3775		20	Screw		ABA1351	
					21	Screw		ABA1364	B

(2) CONTRAST TABLE
PDP-LX5090H/YSIXK7 and WYS7 are constructed the same except for the following:

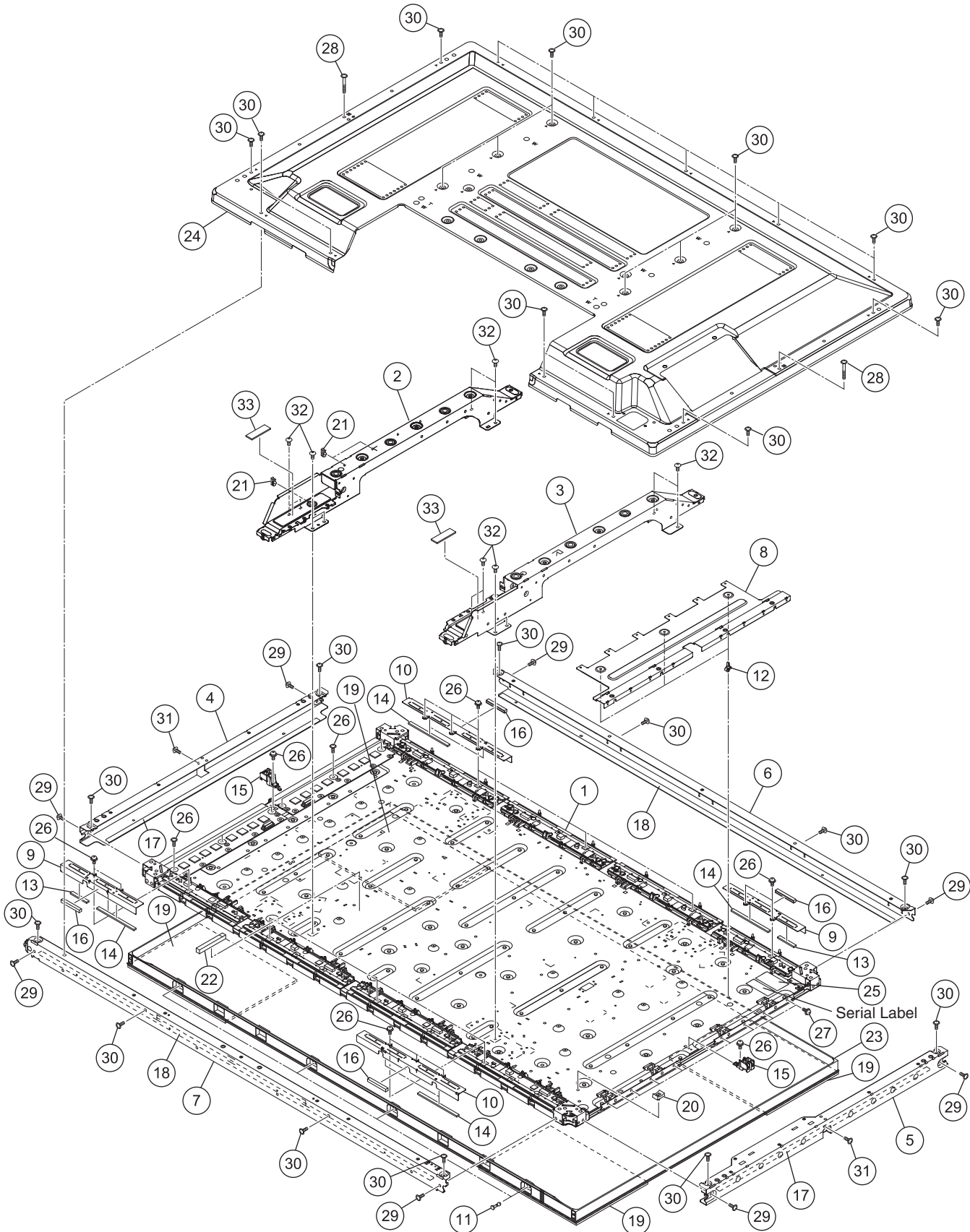
Mark	No.	Symbol and Description	PDP-LX5090H/ YSIXK7	PDP-LX5090H/ WYS7
NSP	1	P.Chassis (509FE) Assy	AWU1362	AWU1369

6.5 PDP SERVICE ASSY

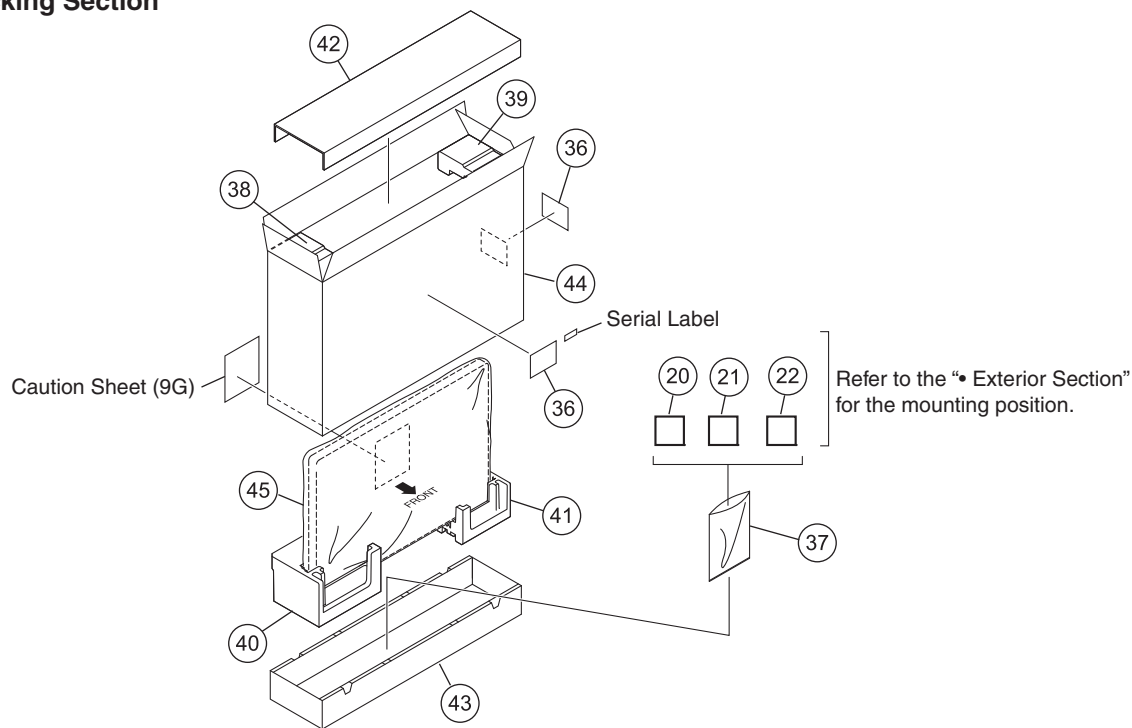
PDP SERVICE ASSY 509FE : AWU1367

	YSIXK5	YSIXK7, WYS7
PDP SERVICE ASSY	AWU1342	AWU1367

● Exterior Section



● Packing Section



PDP SERVICE ASSY PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	P. Chassis (509FE) Assy	AWU1369	26	Screw	ABA1351
2	Sub Frame L Assy (50)	ANA2137	27	Screw	ABA1364
3	Sub Frame R Assy (50)	ANA2140	28	Screw (3 x 25 P)	ABA1380
4	F. Chassis VL Assy 50	ANA2142	29	Screw	ABZ30P080FTC
5	F. Chassis VR Assy 50	ANA2151	30	Screw	AMZ30P060FTB
6	F. Chassis HT Assy 50	ANA2144	31	Screw	APZ30P080FTB
7	F. Chassis HB 50	ANA2188	32	Screw	TBZ40P060FTC
8	Plate X (509)	ANG3128	33	Stand Cushion	AED1340
9	Address Plate S (509)	ANG3129	34	•••••	
10	Address Plate L (509)	ANG3130	35	•••••	
11	Rivet (Plastic)	AEC1877	36	Caution Label	AAX3031
12	PCB Spacer (Reuse)	AEC2122	37	Vinyl Bag	AHG1338
13	Address Silicon TS	AEH1160	38	Pad (509 T-L EU)	AHA2727
14	Address Silicon TL	AEH1161	39	Pad (509 T-R EU)	AHA2728
15	Support Bracket	AMR3762	40	Pad (509 B-L EU)	AHA2729
16	Gasket ADH-FCH	ANK1850	41	Pad (509 B-R EU)	AHA2730
17	Front Gasket V50	ANK1963	42	Carton Board (509)	AHB1303
18	Front Gasket H50	ANK1964	43	Under Carton (5090)	AHD3673
19	Service Pad	AEC2105	44	Upper Carton (509F-SV)	AHD3716
20	Ferrite Core Holder	AEC1818	45	Protect Sheet	AHG1331
21	Wire Clip	AEC1948			
22	Gasket (10 x 10 x 80)	ANK1974			
NSP 23	Front Service Assy (509)	AMB3103			
24	Rear Case (509)	ANE1671			
NSP 25	Drive Voltage Label	ARW1097			

7. PCB PARTS LIST

PCB PARTS LIST for PDP-LX5090H/YSIXK7, WYS7 is the same as YSIXK5 except for the following:

- A **NOTES:**
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 - The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - When ordering resistors, first convert resistance values into code form as shown in the following examples.
- Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47 k ohm (tolerance is shown by J = 5%, and K = 10%).
- | | | | | | | | | | | |
|---------------|---------------|------------------|---------------|-----|-------|---------|---|---|---|---|
| 560 Ω | \rightarrow | 56 $\times 10^1$ | \rightarrow | 561 | ..... | RD1/4PU | 5 | 6 | 1 | J |
| 47 k Ω | \rightarrow | 47 $\times 10^3$ | \rightarrow | 473 | ..... | RD1/4PU | 4 | 7 | 3 | J |
| 0.5 Ω | \rightarrow | R50 | ..... |  |  | RN2H | R | 5 | 0 | K |
| 1 Ω | \rightarrow | 1R0 | ..... |  |  | RS1P | 1 | R | 0 | K |
- Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
- | | | | | | | | | | | | |
|-----------------|---------------|-------------------|---------------|------|-------|---------|---|---|---|---|---|
| 5.62 k Ω | \rightarrow | 562 $\times 10^1$ | \rightarrow | 5621 | | RN1/4PC | 5 | 6 | 2 | 1 | F |
|-----------------|---------------|-------------------|---------------|------|-------|---------|---|---|---|---|---|
- B
- Meaning of the figures and others in the parentheses in the parts list.
- Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.
IC 301 (A, 91, 111) IC NJM2068V

Mark No. Description Part No.

Unit Name: 50F DIGITAL ASSY (AWW1368)
Block Name: MAIN I/F BLOCK

SEMICONDUCTORS

Q 3201 RN1901

MISCELLANEOUS

Δ L 3201 CHIP BEEDS FILTER BTX1042
CN 3201 50P CONNECTER AKM1399
CN 3202 40P CONNECTER AKM1398
CN 3203 6PIN CONNECTER AKM1405
3202 HEAT SINK B ANH1645
3203 THERMAL SHEET B AEB1417

RESISTORS

R 3201-3207,3211-3218 RAB4CQ100J
Other Resistors RS1/16SS###J

CAPACITORS

C 3201 ACG1150
C 3202 CKSSYB102K50
C 3203 CCSSCH101J50

Block Name: SQ ASIC BLOCK

SEMICONDUCTORS

IC 3301 PEG383B
IC 3303 TC7SH08FUS1
IC 3304 TC7SH32FUS1

MISCELLANEOUS

Δ L 3301,3302 CHIP BEEDS FILTER BTX1042
 Δ L 3303 CHIP BEEDS FILTER BTX1039
 Δ L 3304-3307 CHIP BEEDS FILTER BTX1042
 Δ X 3301 CRYSTAL(27 MHz) ASS1215
CN 3301 CONNECTOR CKS4835

RESISTORS

R 3302,3307-3310 RAB4CQ101J
R 3306,3386 RAB4CQ103J
R 3313 RS1/16SS1000F
R 3314-3319 RAB4CQ100J
R 3321-3325 RAB4CQ470J
R 3332-3338,3344-3346 RAB4CQ220J
R 3351-3359,3361-3367 RAB4CQ220J

Mark No. Description Part No.

R 3371-3377 RAB4CQ220J
Other Resistors RS1/16SS###J

CAPACITORS

C 3301-3306,3309,3310 CKSSYB104K10
C 3307,3311,3331-3334 ACG1150
C 3312-3330,3335,3336 CKSSYB104K10
C 3337 CCSRCH471J50
C 3338,3340 ACG1149
C 3339,3341,3342 CKSSYB104K10
C 3343 ACG1150
C 3345-3355,3357-3386 CKSSYB104K10
C 3356,3392 CCSRCH470J50
C 3387-3389 CKSRYB105K6R3
C 3390,3391,3393-3395 CKSSYB104K10

Block Name: LVDS TX BLOCK 50

SEMICONDUCTORS

IC 3401 PEG478A

MISCELLANEOUS

Δ L 3401-3407 CHIP BEEDS FILTER BTX1042

RESISTORS

R 3401 RS1/16SS5601F
R 3496 RS1/10SR221J
Other Resistors RS1/16SS###J

CAPACITORS

C 3401,3402 ACG1149
C 3403-3410,3415-3420 CKSSYB104K10
C 3411,3413,3421,3435 ACG1150
C 3423-3434,3436-3442 CKSSYB104K10
C 3443,3499 ACG1150
C 3444-3448,3451-3457 CKSSYB104K10

Block Name: ADDRESS CN BLOCK

SEMICONDUCTORS

Q 3501,3504 DTC143EUA
Q 3502,3503,3506,3508 RN1901
D 3501-3504 DAN202U

5	6	7	8
Mark No. Description Part No. MISCELLANEOUS CN 3501-3508,3510 26P CONNECTER AKM1397 CN 3509 50P CONNECTER AKM1399 RESISTORS R 3502,3504,3507 RAB4CQ101J R 3503,3505 RAB4CQ102J Other Resistors RS1/16SS###J CAPACITORS C 3501-3508,3510-3512 CKSSYB102K50 C 3514,3516,3518-3520 CKSSYB102K50 Block Name: MODEULE UCOM BLOCK SEMICONDUCTORS IC 3602 BR24L04FJ-W IC 3604 TC74VHC08FTS1 IC 3605 MB88347LPFV-GBND IC 3607 TC74VHC123AFTS1 IC 3608 TC74VHC126FTS1 IC 3609,3610 TC74LCX541FTS1 IC 3611 PST3628UR Q 3602 2SJ461A Q 3604 RN1902 D 3601-3604 DAN202U D 3606-3608,3612 1SS352 D 3609,3611 SML-310MT D 3610 SML-D12V8W MISCELLANEOUS ⚠ X 3601 CERAMIC OSCILLATOR CSS1616 CN 3601 5PIN CONNECTER AKM1418 CN 3602,3603 CONNECTOR CKS4828 RESISTORS R 3603,3608 RAB4CQ222J R 3604,3607 RAB4CQ101J R 3606,3615 RAB4CQ470J R 3639,3666 RAB4CQ103J Other Resistors RS1/16SS###J CAPACITORS C 3601,3603-3606 CKSSYB104K10 C 3602,3615,3635,3636 CCSSCH101J50 C 3608-3612,3614,3618 CKSSYB104K10 C 3619 CKSRYB103K50 C 3620-3622 CKSRYB105K6R3 C 3630 CKSSYB104K10 C 3631 CKSRYB472K50 C 3632-3634 CKSSYB102K50 Block Name: DD CON BLOCK SEMICONDUCTORS IC 3801 BD8606FV IC 3802 TC74VHC08FTS1 IC 3803 S-1170B18UC-OTD IC 3804 BD12KA5WFP IC 3805 PST3628UR IC 3808 PQ200WNA1ZPH Q 3801,3803 DTC144EUA Q 3802 RN1901 Q 3804 DTC143EUA Q 3841,3861,3881 SP8M4	Mark No. Description Part No. D 3801,3802,3882 1SS352 D 3841,3861,3881 RB060M-30 MISCELLANEOUS ⚠ L 3801 CHIP BEEDS FILTER BTX1039 ⚠ L 3841,3881 INDUCTOR ATH1235 ⚠ L 3861 INDUCTOR BTH1110 CN 3801 10PIN CONNECTER AKM1409 CN 3802 CONNECTOR AKM1277 FU 3801 CHIP FUSE AEK1087 RESISTORS R 3801,3802 RAB4CQ101J R 3815 RS1/10SR4301D R 3816 RS1/10SR1301D R 3828 RS1/10SR2702D R 3832 RS1/10SR221J R 3836 RS1/16SS2202F R 3837,3838 RS1/16SS3901F R 3841,3843,3863 RS1/10SR3302D R 3844 RS1/10SR4702D R 3845 RS1/10SR2002D R 3861 RS1/10SR1503D R 3862,3882 RS1/10SR3001D R 3864,3883 RS1/10SR3902D R 3865 RS1/10SR1003D R 3881 RS1/10SR1203D R 3885 RS1/10SR7502D Other Resistors RS1/16SS###J CAPACITORS C 3801-3804,3808,3821 CKSSYB102K50 C 3805,3806 CKSSYB104K10 C 3807 CKSRYB472K50 C 3809 CKSRYB104K16 C 3810,3811,3841,3842 ACG1150 C 3812,3814,3824 CKSRYB105K6R3 C 3813,3815,3843,3847 ACG1149 C 3817,3825,3826 DCH1165 C 3818 CCSSCH101J50 C 3820,3844 CCSRCH221J50 C 3845,3888 CKSRYB682K50 C 3848 CKSRYB153K50 C 3861,3862,3881,3882 ACG1150 C 3863,3867,3883,3887 ACG1149 C 3864 CCSRCH470J50 C 3865 CKSRYB152K50 C 3868 CKSRYB103K50 C 3884 CCSRCH620J50 C 3885 CKSRYB182K50	Mark No. Description Part No. D 3801,3802,3882 1SS352 D 3841,3861,3881 RB060M-30 MISCELLANEOUS ⚠ L 3801 CHIP BEEDS FILTER BTX1039 ⚠ L 3841,3881 INDUCTOR ATH1235 ⚠ L 3861 INDUCTOR BTH1110 CN 3801 10PIN CONNECTER AKM1409 CN 3802 CONNECTOR AKM1277 FU 3801 CHIP FUSE AEK1087 RESISTORS R 3801,3802 RAB4CQ101J R 3815 RS1/10SR4301D R 3816 RS1/10SR1301D R 3828 RS1/10SR2702D R 3832 RS1/10SR221J R 3836 RS1/16SS2202F R 3837,3838 RS1/16SS3901F R 3841,3843,3863 RS1/10SR3302D R 3844 RS1/10SR4702D R 3845 RS1/10SR2002D R 3861 RS1/10SR1503D R 3862,3882 RS1/10SR3001D R 3864,3883 RS1/10SR3902D R 3865 RS1/10SR1003D R 3881 RS1/10SR1203D R 3885 RS1/10SR7502D Other Resistors RS1/16SS###J CAPACITORS C 3801-3804,3808,3821 CKSSYB102K50 C 3805,3806 CKSSYB104K10 C 3807 CKSRYB472K50 C 3809 CKSRYB104K16 C 3810,3811,3841,3842 ACG1150 C 3812,3814,3824 CKSRYB105K6R3 C 3813,3815,3843,3847 ACG1149 C 3817,3825,3826 DCH1165 C 3818 CCSSCH101J50 C 3820,3844 CCSRCH221J50 C 3845,3888 CKSRYB682K50 C 3848 CKSRYB153K50 C 3861,3862,3881,3882 ACG1150 C 3863,3867,3883,3887 ACG1149 C 3864 CCSRCH470J50 C 3865 CKSRYB152K50 C 3868 CKSRYB103K50 C 3884 CCSRCH620J50 C 3885 CKSRYB182K50	Mark No. Description Part No. D 3801,3802,3882 1SS352 D 3841,3861,3881 RB060M-30 MISCELLANEOUS ⚠ L 3801 CHIP BEEDS FILTER BTX1039 ⚠ L 3841,3881 INDUCTOR ATH1235 ⚠ L 3861 INDUCTOR BTH1110 CN 3801 10PIN CONNECTER AKM1409 CN 3802 CONNECTOR AKM1277 FU 3801 CHIP FUSE AEK1087 RESISTORS R 3801,3802 RAB4CQ101J R 3815 RS1/10SR4301D R 3816 RS1/10SR1301D R 3828 RS1/10SR2702D R 3832 RS1/10SR221J R 3836 RS1/16SS2202F R 3837,3838 RS1/16SS3901F R 3841,3843,3863 RS1/10SR3302D R 3844 RS1/10SR4702D R 3845 RS1/10SR2002D R 3861 RS1/10SR1503D R 3862,3882 RS1/10SR3001D R 3864,3883 RS1/10SR3902D R 3865 RS1/10SR1003D R 3881 RS1/10SR1203D R 3885 RS1/10SR7502D Other Resistors RS1/16SS###J CAPACITORS C 3801-3804,3808,3821 CKSSYB102K50 C 3805,3806 CKSSYB104K10 C 3807 CKSRYB472K50 C 3809 CKSRYB104K16 C 3810,3811,3841,3842 ACG1150 C 3812,3814,3824 CKSRYB105K6R3 C 3813,3815,3843,3847 ACG1149 C 3817,3825,3826 DCH1165 C 3818 CCSSCH101J50 C 3820,3844 CCSRCH221J50 C 3845,3888 CKSRYB682K50 C 3848 CKSRYB153K50 C 3861,3862,3881,3882 ACG1150 C 3863,3867,3883,3887 ACG1149 C 3864 CCSRCH470J50 C 3865 CKSRYB152K50 C 3868 CKSRYB103K50 C 3884 CCSRCH620J50 C 3885 CKSRYB182K50

Service Manual



PDP-LX5090

ORDER NO.
ARP3480

FLAT SCREEN TV

PDP-LX5090

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-LX5090	WYSIXK5	AC 220 V to 240 V	
PDP-LX5090	WYS5	AC 220 V to 240 V	



For details, refer to "Important Check Points for good servicing".

SAFETY INFORMATION



This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.

6. Perform the following precautions against unwanted radiation and rise in internal temperature.

- Always return the internal wiring to the original styling.
- Attach parts (Gasket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.

7. Perform the following precautions for the PDP panel.

- When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
- Make sure that the panel vent does not break. (Check that the cover is attached.)
- Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.

8. Pay attention to the following.

- Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4 MΩ.

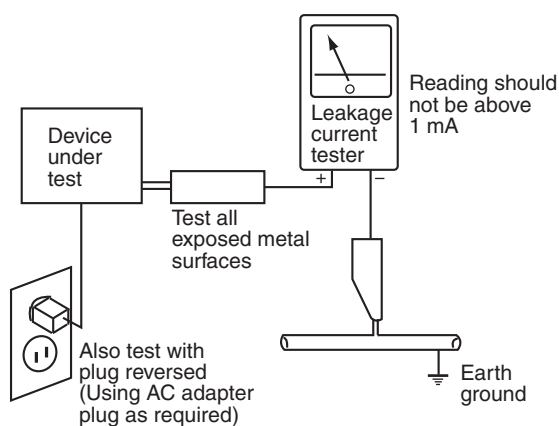
The below 4 MΩ resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).

Turn the AC power switch on.

Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

A

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety



Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

- ① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

- ② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification (addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

- ③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

- ④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

- ⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

- ⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

- ⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

- ⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

- ⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

- ⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments



To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts



Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning



For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws



To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

F

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1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

A

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.
- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 °C.
Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

B

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:

- Parts numbers of lead-free solder:
GYP1006 1.0 in dia.
GYP1007 0.6 in dia.
GYP1008 0.3 in dia.

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■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.



1. Power Cord
2. AC Inlet
3. Power Switch
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer
(In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.
The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in “5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION” are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

50F X DRIVE Assy	.....	(205 V)
50F Y DRIVE Assy	.....	(-280 V to 420 V)
50F SCAN A Assy	.....	(-280 V to 420 V)
50F SCAN B Assy	.....	(-280 V to 420 V)

-  : Part is Charged Section.
-  : Part is the High Voltage Generating Points other than the Charged Section.

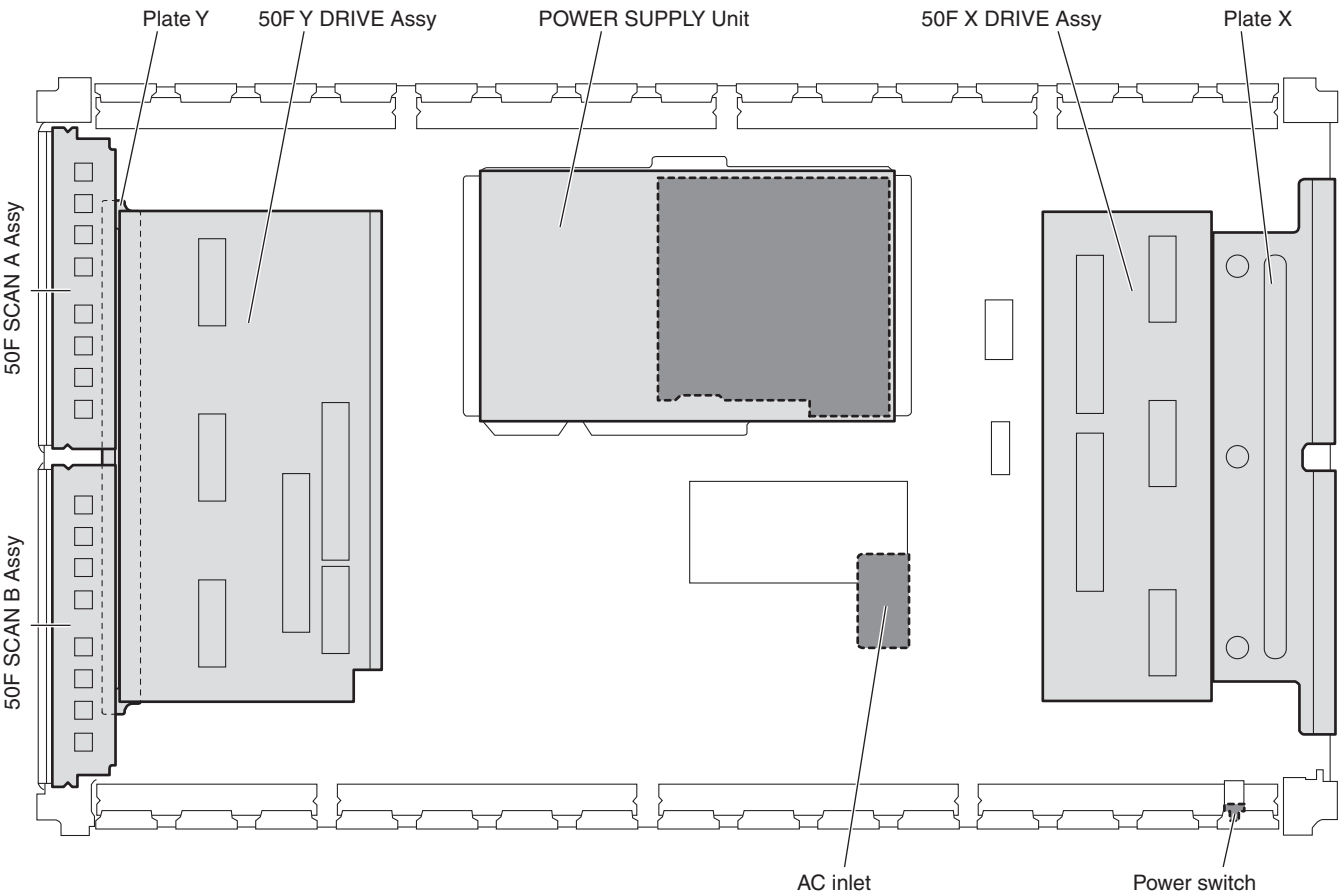


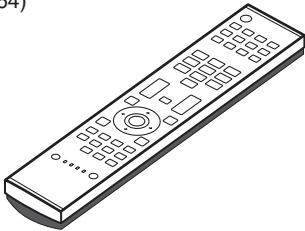
Fig. High Voltage Generating Point (Rear view)

2. SPECIFICATIONS

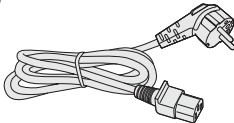
2.1 ACCESSORIES

A

- Remote control unit
(AXD1564)
- Power cable
Only the power cable appropriate for your country or region
is supplied:



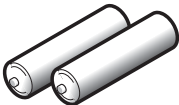
(ADG1214)



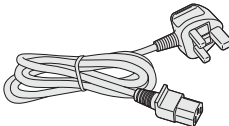
For Europe, except UK and Republic of Ireland

B

- Dry cell battery (R6, AA) (×2)
(for remote control unit)



(ADG1223: WYSIXK5 only)



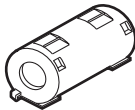
For UK and Republic of Ireland

C

- Ferrite core
(ATX1039)

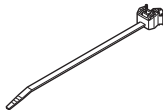
- Ferrite core

- Cable tie (for ferrite core)



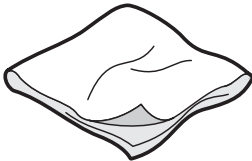
- Binder Assy
(AEC2158)

- Cable clamp (×4)

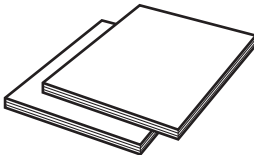


D

- Cleaning cloth (AED1285)

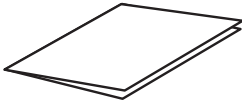


- Operating instructions (×2)
(ARE1492: WYSIXK5 only)
(ARC1606: WYSIXK5 only) or (ARC1618: WYS5 only)



E

- Warranty card



F

2.2 SPECIFICATIONS

Item			50" flat screen TV, model: PDP-LX5090
Number of pixels			1920 x 1080 pixels
Audio amplifier			18 W + 18 W (1 kHz, 10 %, 6 Ω)
Sound Effect			SRS FOCUS/SRS/SRS TruBass/SRS Definition
Power Requirements			220 V to 240 V AC, 50 Hz/60 Hz, 420 W (0.3 W Standby)
Weight			33.5 kg (73.9 lbs.)
Colour System	Analogue		PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60
	Digital		PAL/SECAM
TV Function (Analogue)	Receiving System		B/G, D/K, I, L, L'
	Tuner	VHF/UHF	E2–E69 ch, F1–F6 ch, I21–I69 ch, IR A–IR J ch
		CATV	Hyper-band, S1–S41 ch
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort
	STEREO		NICAM/A2
TV Function (Digital)	Receiving System		DVB-T(2K/8K COFDM)
	Tuner	VHF/UHF	VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz)
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort
	STEREO		MPEG layer I/II, Dolby Digital
Terminals	Rear	INPUT 1	SCART (AV in, RGB in, TV out), HDMI in ^{*1}
		INPUT 2	SCART (AV in/out, S-VIDEO in, AV link ^{*2}), Component Video in, AUDIO in
		INPUT 3	SCART (AV in/out, S-VIDEO in, RGB in, AV link ^{*2}), HDMI in ^{*1}
		INPUT 4	HDMI in ^{*1}
		CONTROL OUT	1
		SPEAKERS	6 Ω to 16 Ω
		Antenna	75 Ω Din Type for VHF/UHF in
		PC INPUT	Analogue RGB in, Audio in
		AUDIO OUT	AUDIO out (Fixed)
		SUB WOOFER OUT	Variable
		DIGITAL OUT	Digital audio output (Optical)
		COMMON INTERFACE	CA Module
	Side	INPUT 5	VIDEO in, AV in
		USB	USB in ^{*3}
		PHONES	16 Ω to 32 Ω recommended

^{*1} This conforms to HDMI1.3 (Deep Colour) and HDCP1.1. HDMI (High-Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

^{*2} Switchable from menu.

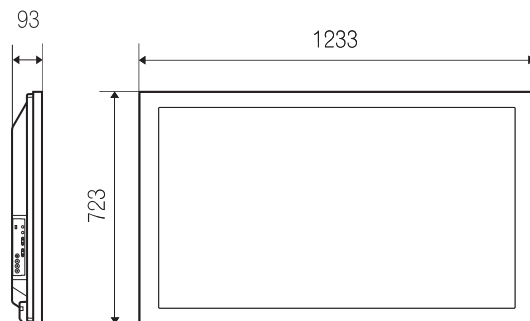
^{*3} This conforms to USB 1.1 and 2.0 specifications.

Design and specifications are subject to change without notice.

Dimensions

PDP-LX5090

Unit: mm

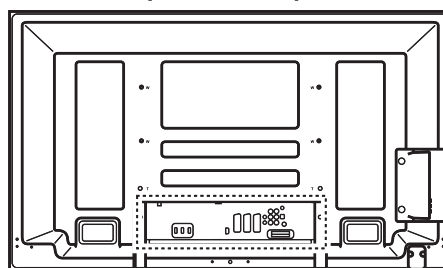


4

Rear Section

(Rear)

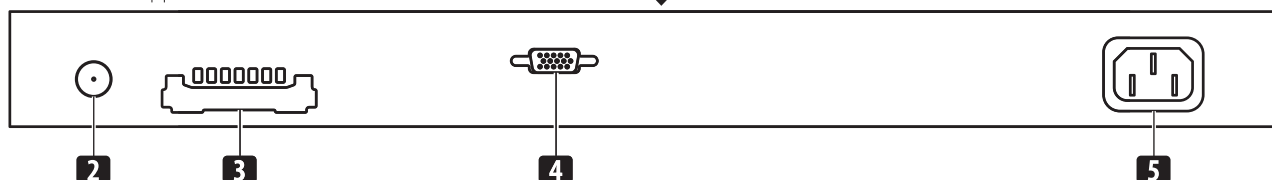
(PDP-LX5090)



1

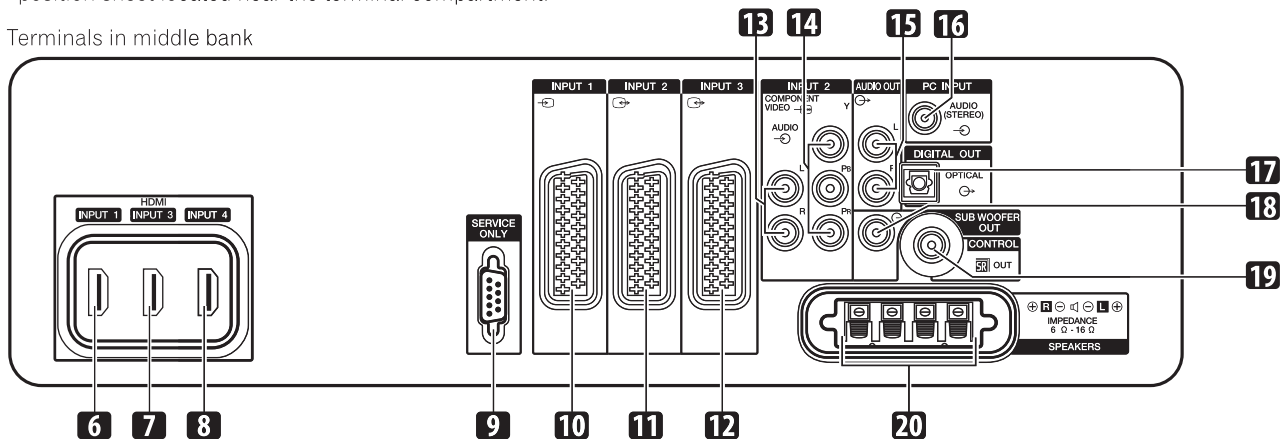


Terminals in upper bank



*For exact terminal positions, refer to the terminal position sheet located near the terminal compartment.

Terminals in middle bank



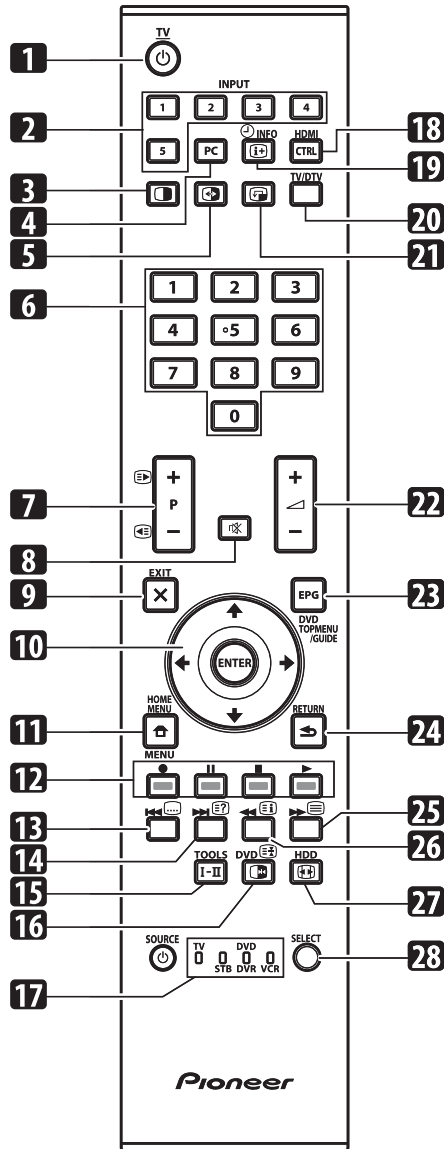
The terminals on the rear panel are common to the PDP-LX6090 and PDP-LX5090.

- | | | | |
|----|---|----|--|
| 1 | Power button | 12 | INPUT 3 terminal (SCART) |
| 2 | ANT (Antenna) input terminal | 13 | INPUT 2 terminals (Audio) |
| | • Power can be supplied through this terminal | 14 | INPUT 2 terminals (COMPONENT VIDEO: Y, P _B , P _R) |
| 3 | COMMON INTERFACE slot | 15 | AUDIO OUT terminals |
| | • For a CA Module with a smart card | 16 | PC INPUT terminal (Audio) |
| 4 | PC INPUT terminal (Analogue RGB) | 17 | DIGITAL OUT terminal (OPTICAL) |
| 5 | AC IN terminal | 18 | SUB WOOFER OUT terminal |
| 6 | INPUT 1 terminal (HDMI) | 19 | CONTROL OUT terminal (supports SR+) |
| 7 | INPUT 3 terminal (HDMI) | 20 | SPEAKERS terminals (right/left) |
| 8 | INPUT 4 terminal (HDMI) | | • Do not connect any devices to the speaker terminals other than the speakers specified. |
| 9 | RS-232C terminal (used for factory setup) | | • Do not leave speaker cable wires bare and exposed at the terminals. Exposed wires can result in an electrical short causing malfunction or damage to the system. |
| 10 | INPUT 1 terminal (SCART) | | |
| 11 | INPUT 2 terminal (SCART) | | |

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Remote Control Unit

This section describes the functions of the buttons available when the TV mode has been selected by using the **SELECT** button.



- 1 **TV:** Turns on the power to the flat screen TV or places it into the standby mode.
- 2 **INPUT:** Selects an input source of the flat screen TV. ("INPUT 1", "INPUT 2", "INPUT 3", "INPUT 4", "INPUT 5")
- 3 **2-SCREEN:** Switches the screen mode among 2-screen, picture-in-picture, and single-screen.
- 4 **PC:** Selects the PC terminal as an input source.

- 5 **2-SCREEN/PICTURE-IN-PICTURE:** Switches between the two screens when in the 2-screen or picture-in-picture mode.
- 6 **0 to 9:** TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.
- 7 **P+/P-:** TV/External input mode: Selects a channel.
TELETEXT: Teletext mode: Selects a page.
- 8 **MUTE:** Mutes the sound.
- 9 **EXIT:** Returns to the normal screen in one step.
- 10 **UP/DOWN/LEFT/RIGHT:** Selects a desired item on the setting screen.
ENTER: Executes a command.
- 11 **HOME MENU:** Displays the HOME MENU screen.
- 12 **Colour (RED/GREEN/YELLOW/BLUE):**
Teletext mode: Selects a page.
- 13 **TELETEXT:** Jumps to Teletext subtitle page.
Turns subtitle on and off in DTV input mode depending on the broadcast.
- 14 **TELETEXT:** Displays hidden characters.
- 15 **I-II:** Sets the sound multiplex mode.
- 16 **TV/EXTERNAL INPUT:** TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.
TELETEXT: Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.
- 17 **TV, STB, DVD/DVR, VCR:** These indicators show the current selection and status when you control other connected equipment, using the supplied remote control unit.
- 18 **HDMI CONTROL:** Displays the HDMI Control menu.
- 19 **INFO:** Displays the channel information.
Displays the banner information in DTV input mode.
- 20 **TV/DTV:** Switches between the TV and DTV input modes.
- 21 **PICTURE-IN-PICTURE:** Moves the location of the small screen when in the picture-in-picture mode.
- 22 **VOLUME:** Sets the volume.
- 23 **EPG:** Displays the Electronic Programme Guide in DTV input mode.
- 24 **RETURN:** Restores the previous menu screen.
- 25 **TELETEXT:** Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).
- 26 **TELETEXT:** Displays an Index page for the CEEFAX/FLOF format.
Displays a TOP Over View page for the TOP format.
- 27 **SCREEN SIZE:** Selects the screen size.
- 28 **SELECT:** Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other connected equipment, using the supplied remote control unit.

Note

- When using the remote control unit, point it at the flat screen TV.

F

Items to be checked after repair (PDP)

To ensure the quality of the product after repair, check the recommended items shown below:

No.	Procedures	Item to be checked
1	Check if all the symptoms pointed out by the customer have been addressed.	The symptoms in question must not be reproduced.
2	Connect the peripheral equipment.	Connect all external peripheral equipment as originally connected and check if the connections are correct.
3	Check the video and audio.	Tune in to the stations that the customer would normally receive and check if video and audio are normal.
4	Check the buttons and controls.	Use the buttons and controls on the remote control unit and main unit and check if they operate properly.
5	Check the cabinet.	Check for any scratches or dirt that have been made or attached on the cabinet after receiving the product for repair.

See the table below for the items to be checked regarding video and audio:

Item to be checked regarding video	Item to be checked regarding audio
Block noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Mottled color	

Cleaning



Name	Part No.	Remarks
Cleaning paper	GED-008	Used to fan cleaning. Refer to “9.4 CHASSIS SECTION (1/2)”.

3.2 QUICK REFERENCE

Quick Reference upon Service Visit ①
Notes, PD/SD diagnosis, and methods for various settings

Notes when visiting for service

1. Notes when disassembling/reassembling

- ① Rear case
- When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "7. DISASSEMBLY".
- ② Attaching screws for the HDMI connector
- When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

2. On parts replacement

- ① How to discharge before replacing the Assys
- A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:
A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.
For details, see "5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION".
- ② On the settings after replacement of the Assys
- Some boards need settings made after replacement of the Assys. For details, see "8. EACH SETTING AND ADJUSTMENT".

3. On various settings

- ① Setting in Factory mode
- After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

PD/SD			Subcategory confirmation procedure	
Item	No. of LEDs flashing		If the DISPLAY key is pressed during shutdown, the orange LED flashes. For indication patterns other than described below, see 5.4 [2].	
	Red	Blue	SD SD Subcategory	
SQ_LSI		Blue 1	1	EEPROM
Module device communication		Blue 2	2	BACKUP
DIGITAL-RST2		Blue 3	3	DAC
Panel temperature		Blue 4	4	PANEL high temperature
Audio		Blue 5	2	PANEL low temperature
Module UCOM communication		Blue 6	1	Tuner 1
Main 3-wire serial communication		Blue 7	2	MSP/MAP
Main IIC communication		Blue 8	3	AV Switch
Main UCOM communication		Blue 9	4	RGB Switch
FAN		Blue 10	8	Main VDEC
Unit high temperature		Blue 11	6	VDEC-SDRAM
D-TUNER communication		Blue 12	7	AD/PLL
MTB-RST2/RST4		Blue 13	8	HDMI
Main EEPROM		Blue 15	13	COFDEM (PDP-LX5090 only)
			1	RST2
			2	RST4
			LED Display Information	
			For indication patterns other than described below, see 5.1 [1].	
			① Rewriting software	
			B R	
			② No backup	
			B R	
			③ PD (2-15)	
			B R	
			④ SD (1-15)	
			B R	

How to locate several items on the Factory menu

- { } : Item on the Factory menu
- [] : Key on the remote control unit
- " " : Screen indication

1. Confirmation of accumulated power-on time and power-on count

Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [↓] four times.)

2. Confirmation of the Power-down and Shutdown histories

- ① Panel system
- PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [↓] two times.)
SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [↓] three times.)
- ② MTB section
- Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [↓] two times.)

3. How to display the Mask indication

- ① Mask indication in the panel side
1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [↓] 8 times.)
2. Press [ENTER/SET], then select a Mask indication, using [↑] or [↓].

Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

1. Digital Video Assy: Transfer of backup data

- ① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [↓] seven times, then press [ENTER/SET].)
- ② Select {TRANSFER}, using [→], then hold [ENTER/SET] pressed for at least 5 seconds.
- ③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

2. MAIN Assy: Execution of FINAL SETUP.

- ① Select {INITIALIZE} then {FINAL SETUP}, then press [ENTER/SET]. (After entering Factory mode, press [MUTING] three times, then press [↓] four times.)
- ② Select "YES", using [→]. Then hold [ENTER/SET] pressed for at least 5 seconds.
- ③ After "FINAL SETUP IS COMPLETE" is displayed on the screen, turn the POWER switch of the main unit off.

3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value

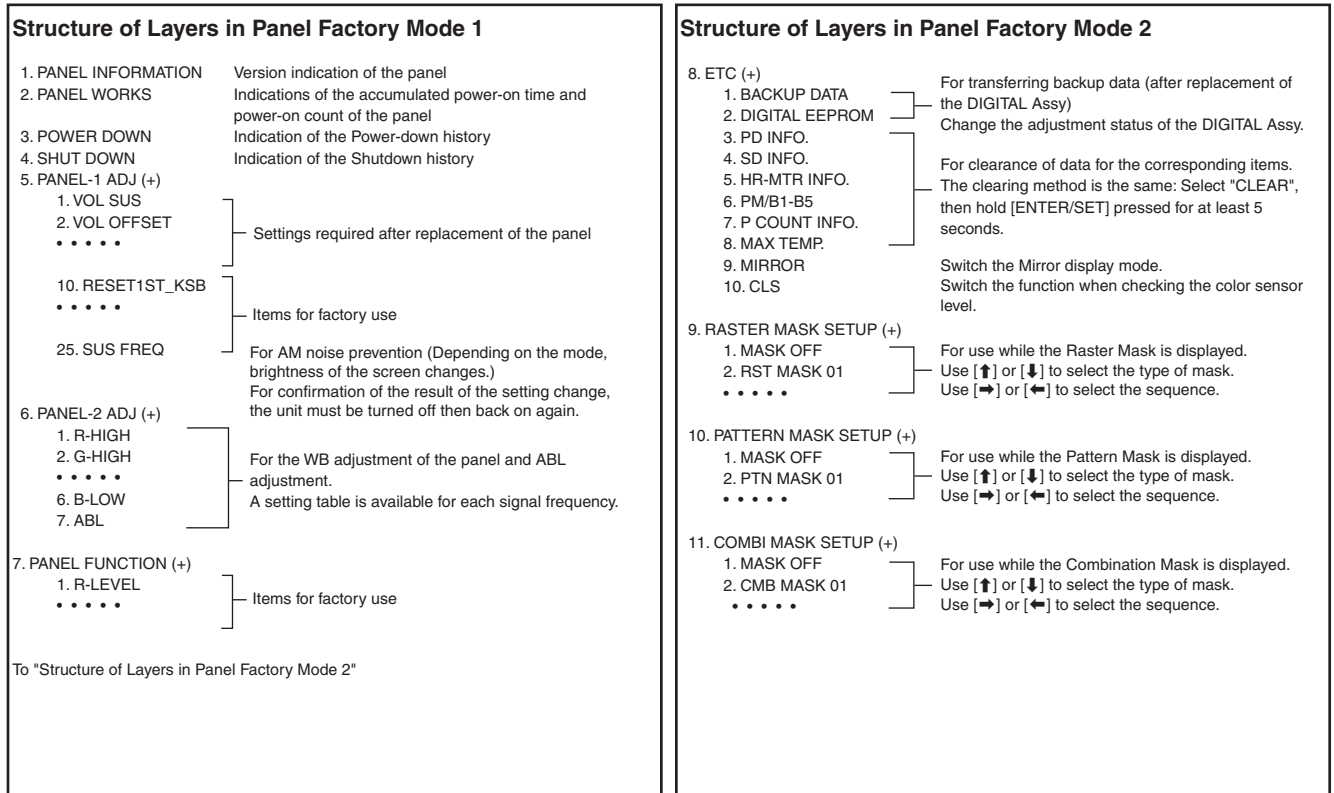
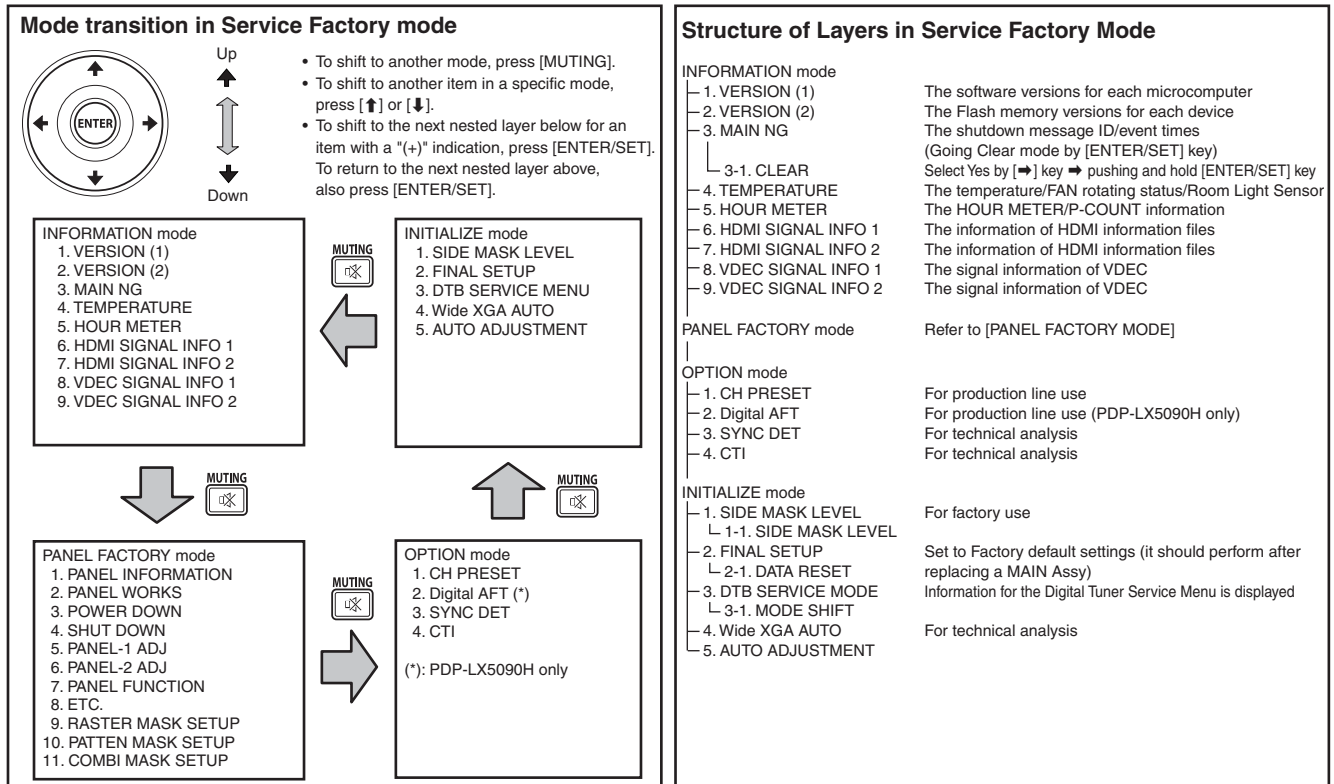
- ① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [↓] seven times, press [ENTER/SET], then press [↓] six times.)
- ② Press [→] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

4. Other Assys: Clearance of the maximum temperature value

- ① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [↓] seven times, press [ENTER/SET], then press [↓] seven times.)
- ② Press [→] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

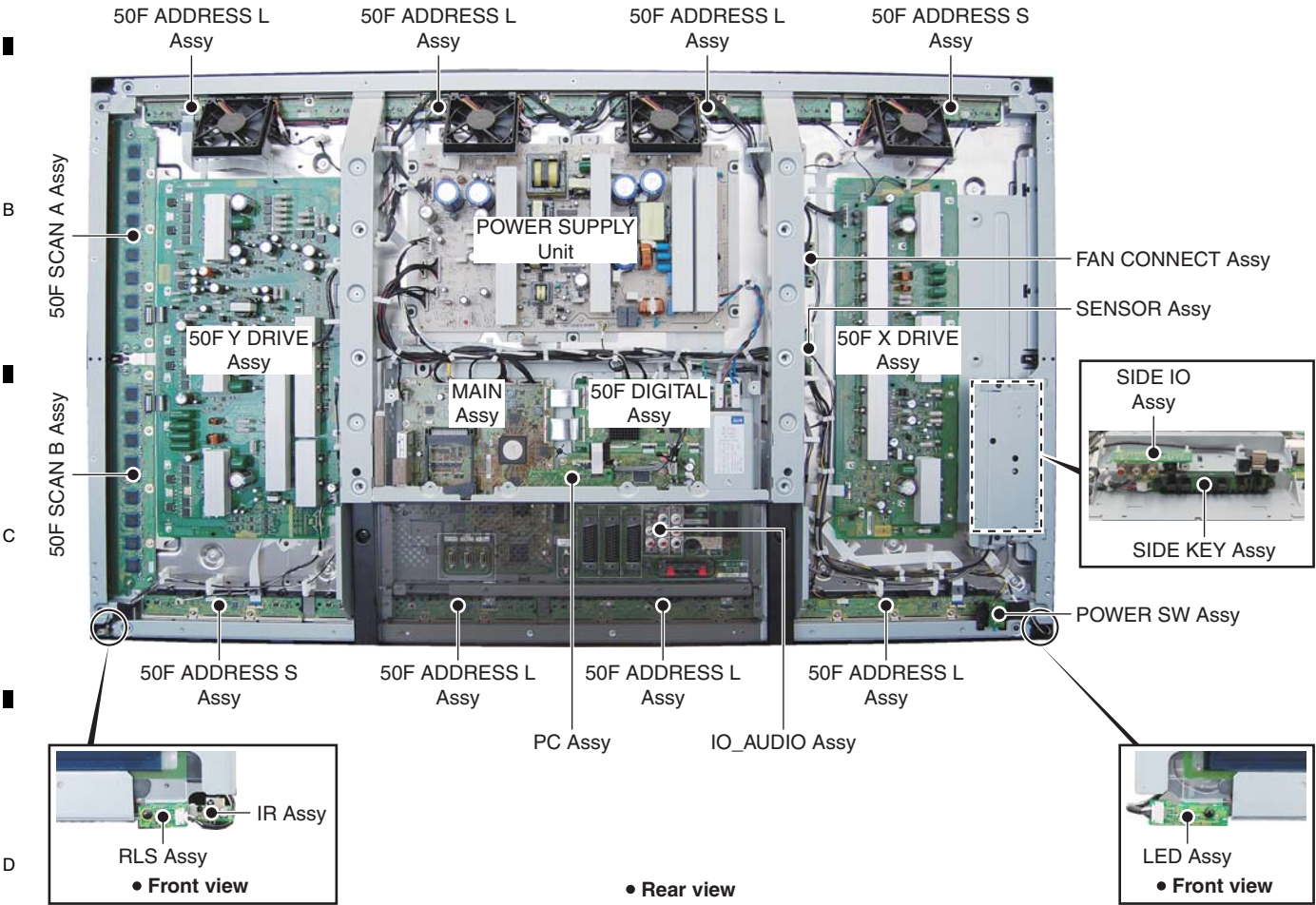
Quick Reference upon Service Visit ②

Mode transition and structure of layers in Service Factory mode



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Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.



NOTES:

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.	
LIST OF ASSEMBLIES								
E	NSP	50F ADDRESS L ASSY	AWW1348	F	⚠	MAIN ASSY	AWV2555	
	NSP	50F ADDRESS S ASSY	AWW1349			IO_AUDIO ASSY	AWW1354	
	NSP	50F SCAN A ASSY	AWW1350			SIDE IO ASSY	AWW1358	
		IC2801 - IC2808	AN16184A			PC ASSY	AWW1359	
	NSP	50F SCAN B ASSY	AWW1351			SIDE KEY ASSY	AWW1361	
		IC2901 - IC2908	AN16184A			LED ASSY	AWW1362	
		SENSOR ASSY	AWW1340			IR ASSY	AWW1363	
		50F DIGITAL Assy	AWW1347			FAN CONNECT ASSY	AWW1364	
		50F X DRIVE ASSY	AWV2546			RLS ASSY	AWW1365	
		50F Y DRIVE ASSY	AWV2547			POWER SW ASSY	AWW1366	
					⚠	POWER SUPPLY UNIT	AXY1200	
						PDP SERVICE ASSY 509FE	AWU1342	

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4. BLOCK DIAGRAM

4.1 OVERALL WIRING DIAGRAM (1/2)

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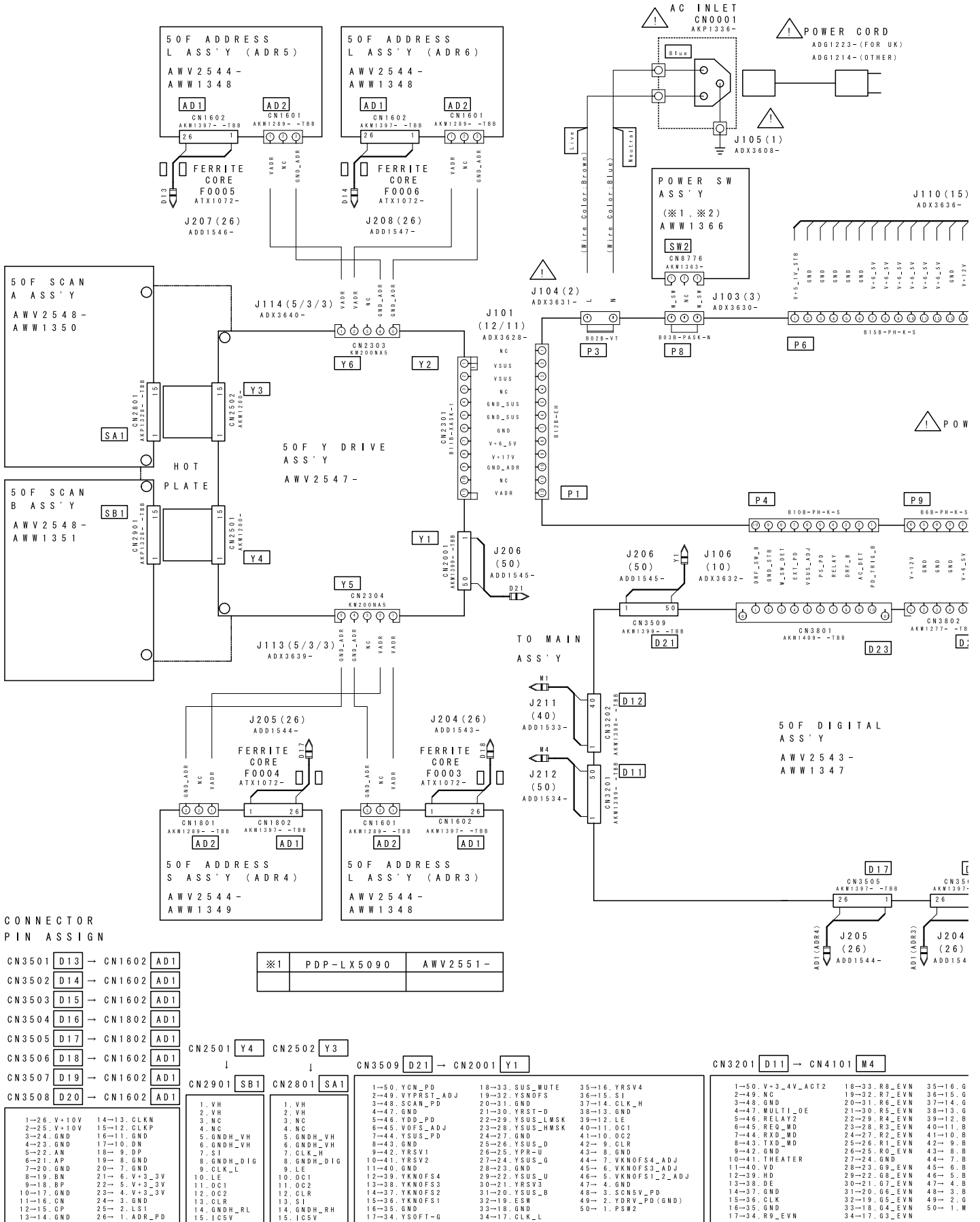
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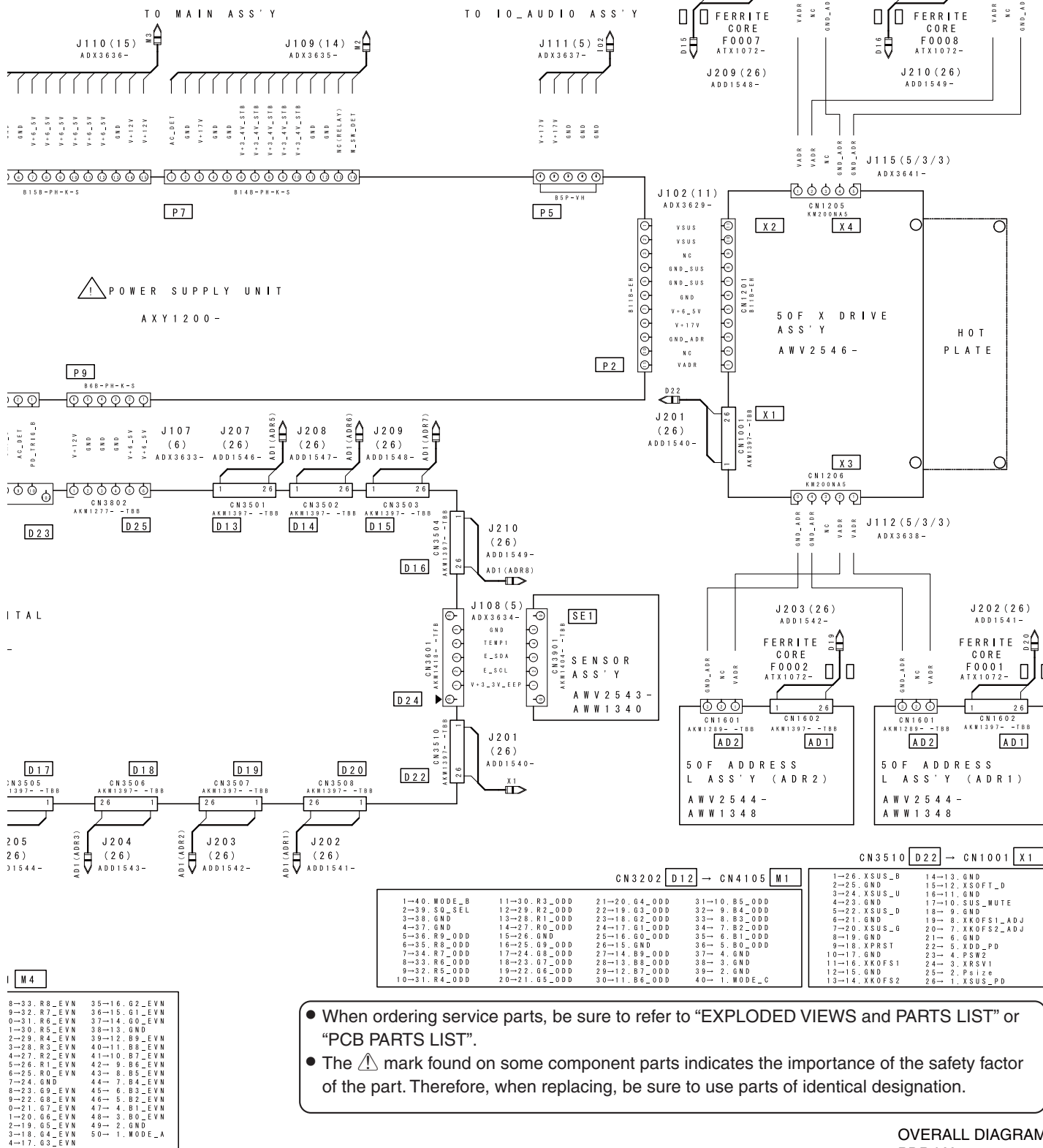
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- When ordering service parts, be sure to refer to “EXPLODED VIEWS and PARTS LIST” or “PCB PARTS LIST”.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

OVERALL DIAGRAM
PDP-LX5090

A

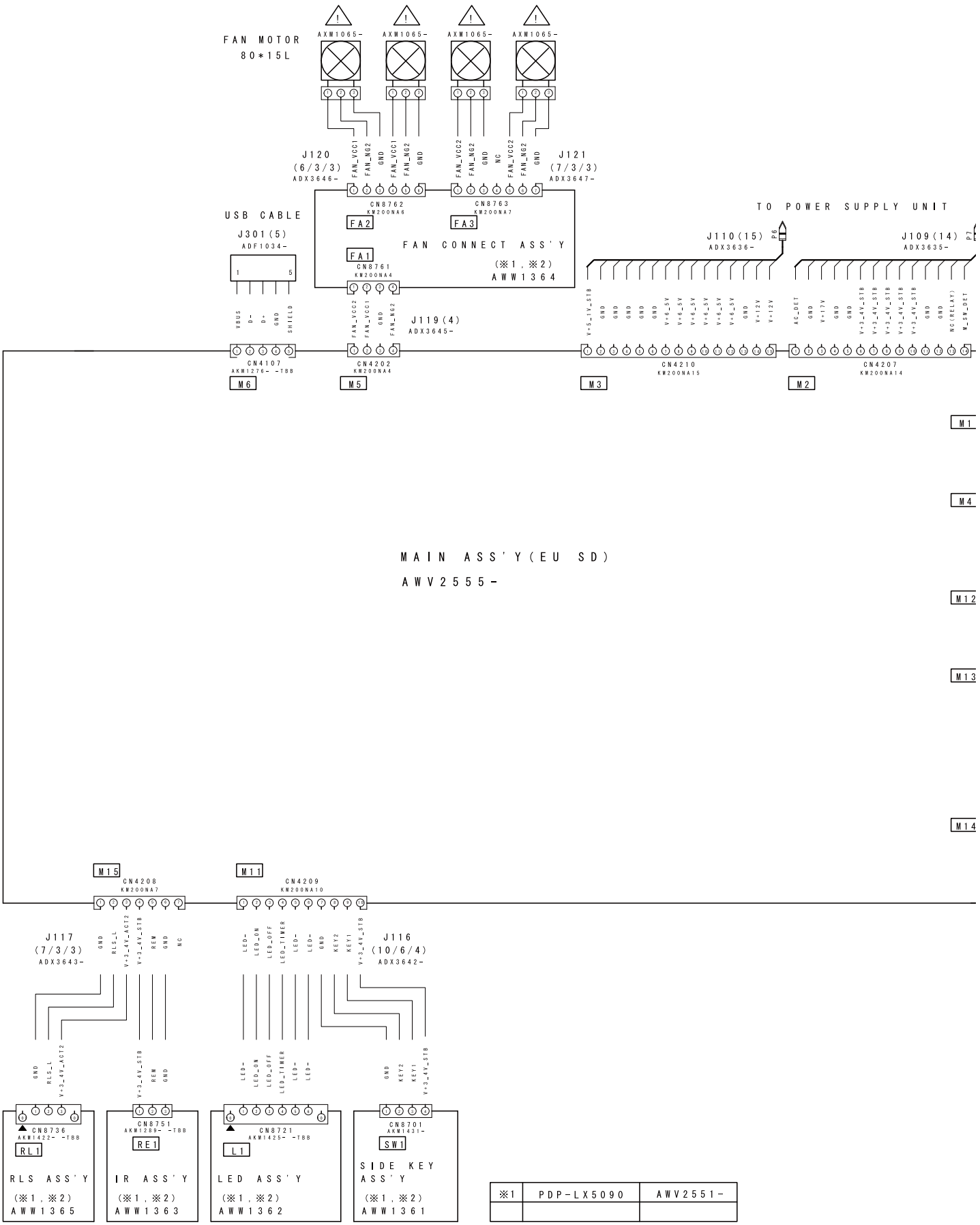
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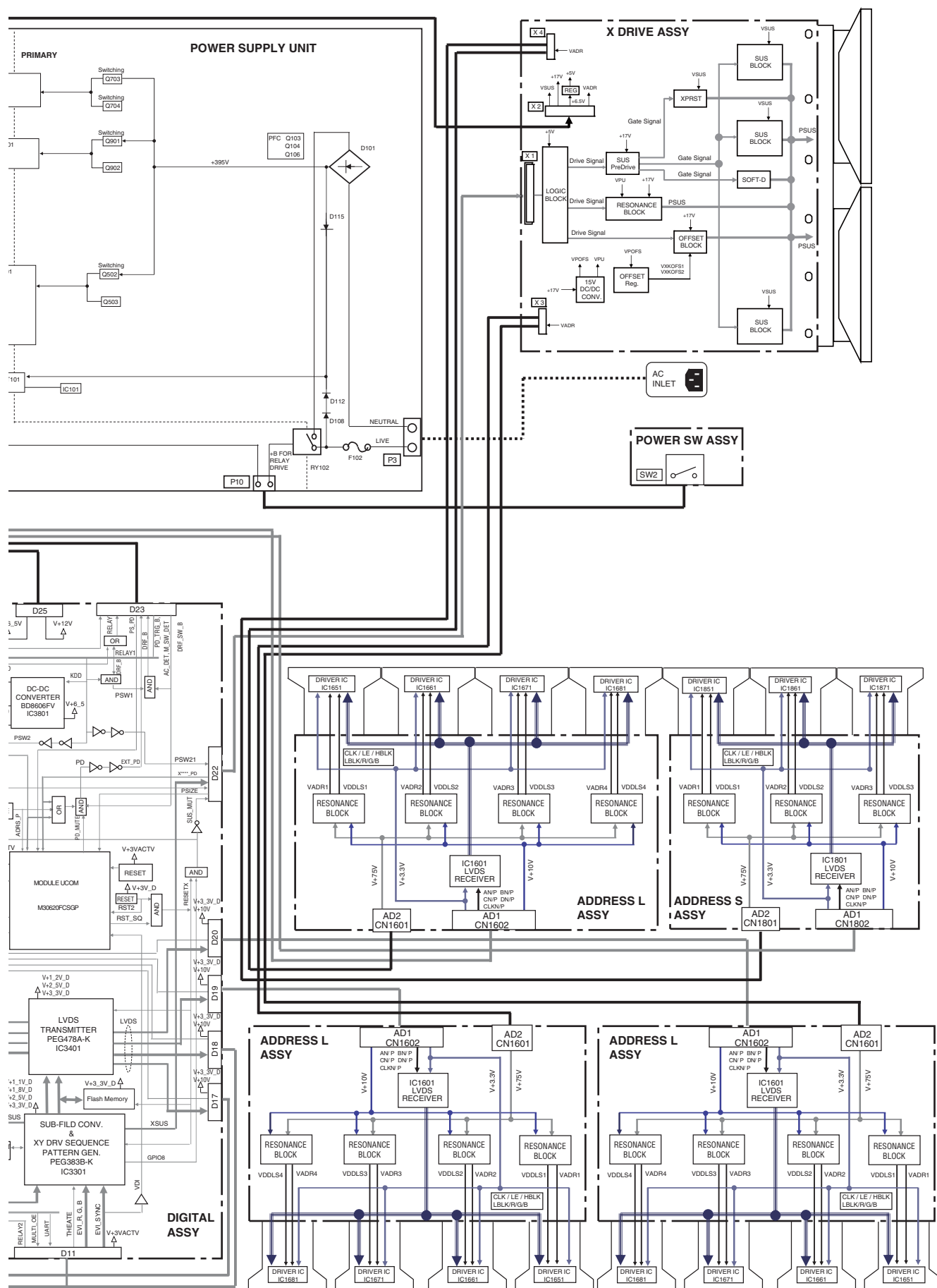




△

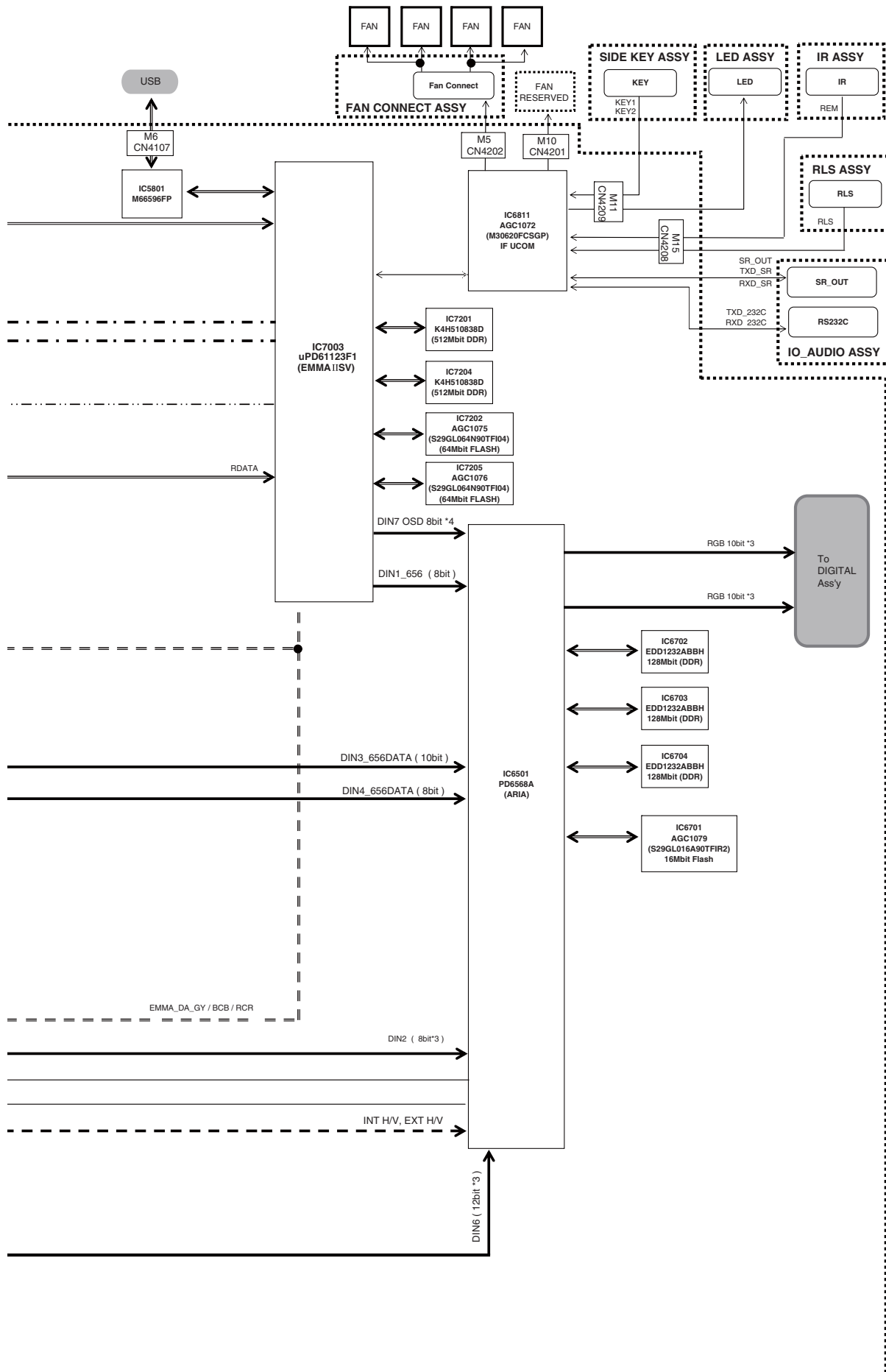
F





4





1 2 3 4

4.5 POWER SUPPLY UNIT

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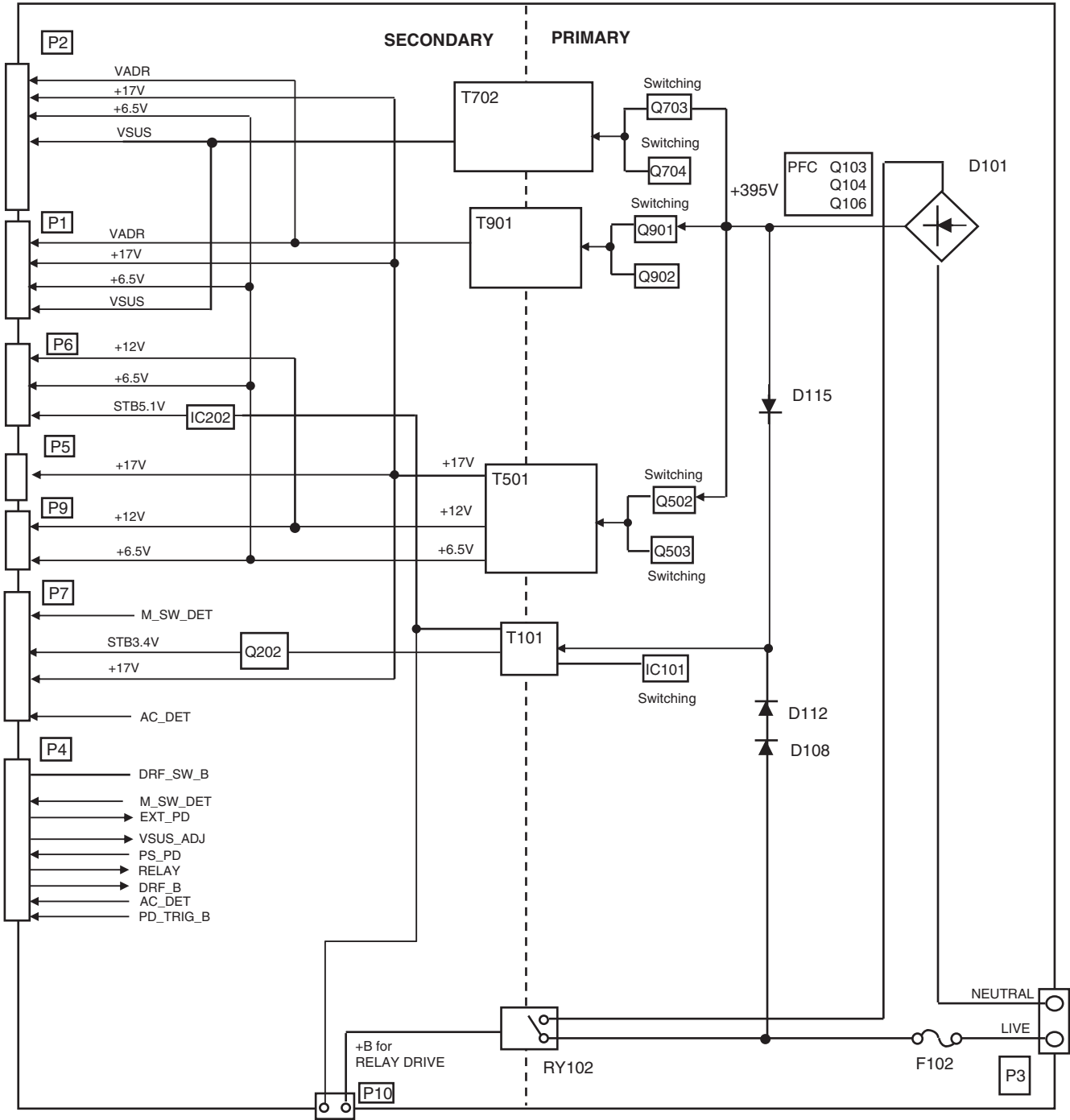
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POWER SUPPLY UNIT



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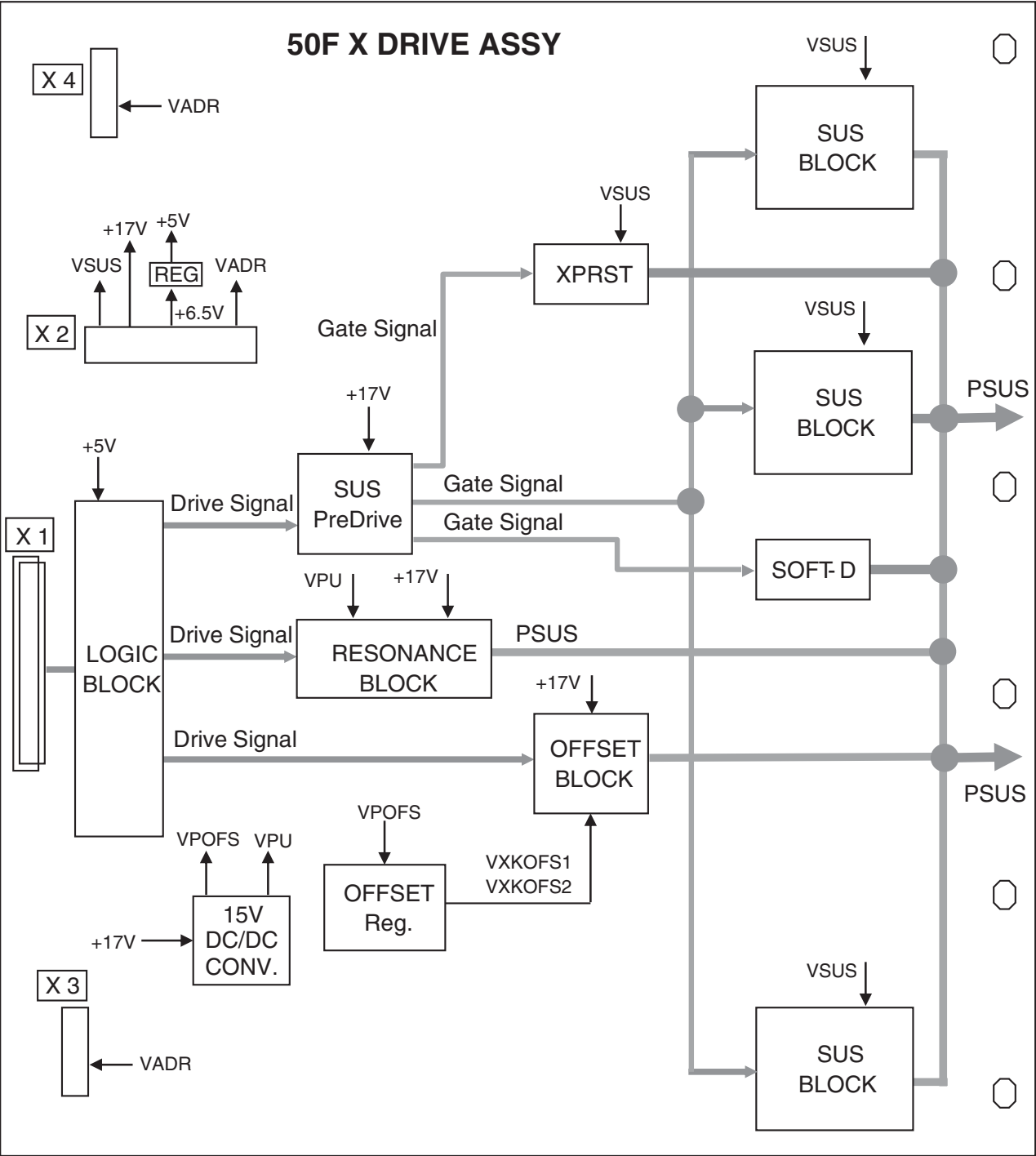
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4.6 50F X DRIVE ASSY



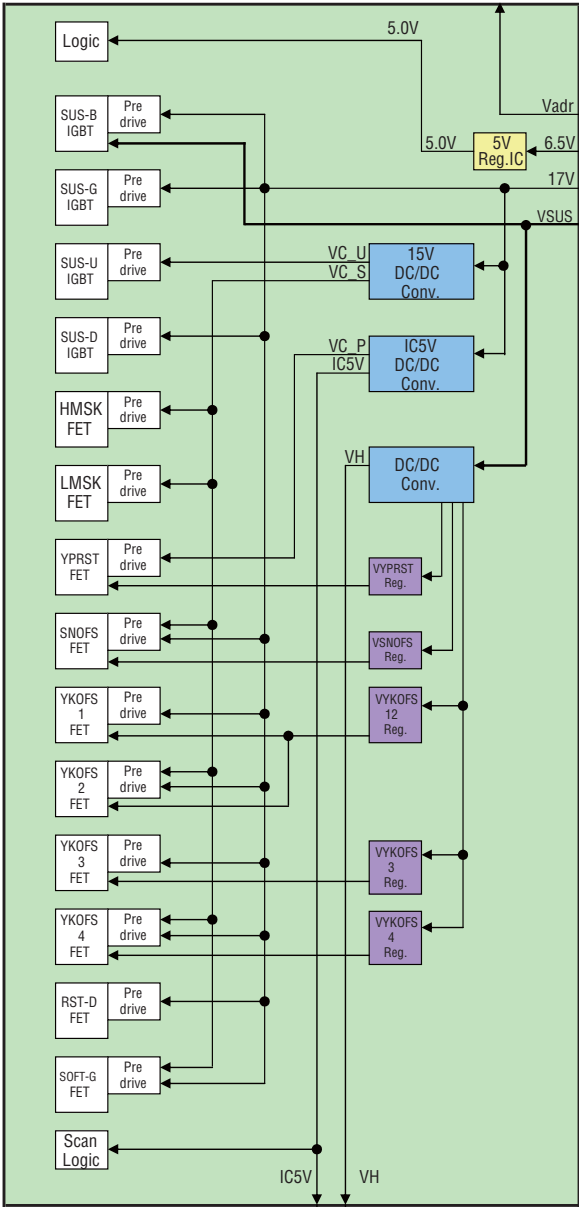
A



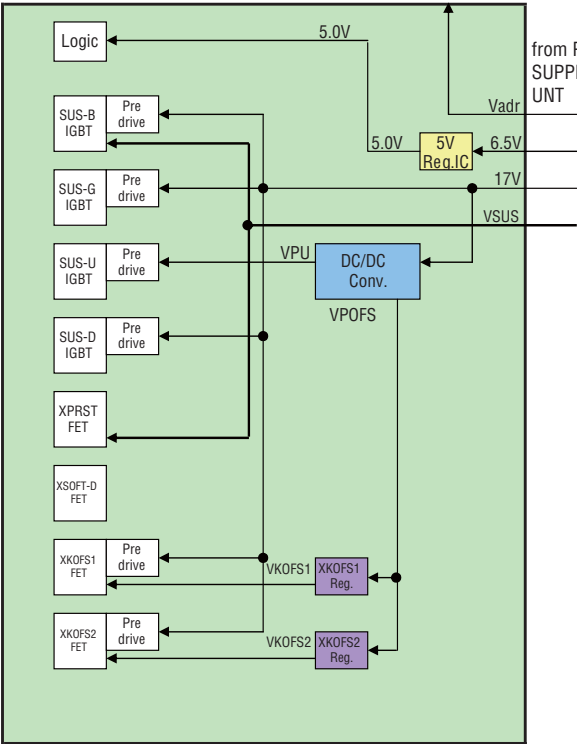
4.8 POWER SUPPLY BLOCK of 50F X, Y DRIVE and 50F SCAN A and B ASSYS

A
B
C
D
E
F

50F Y DRIVE ASSY



50F X DRIVE ASSY



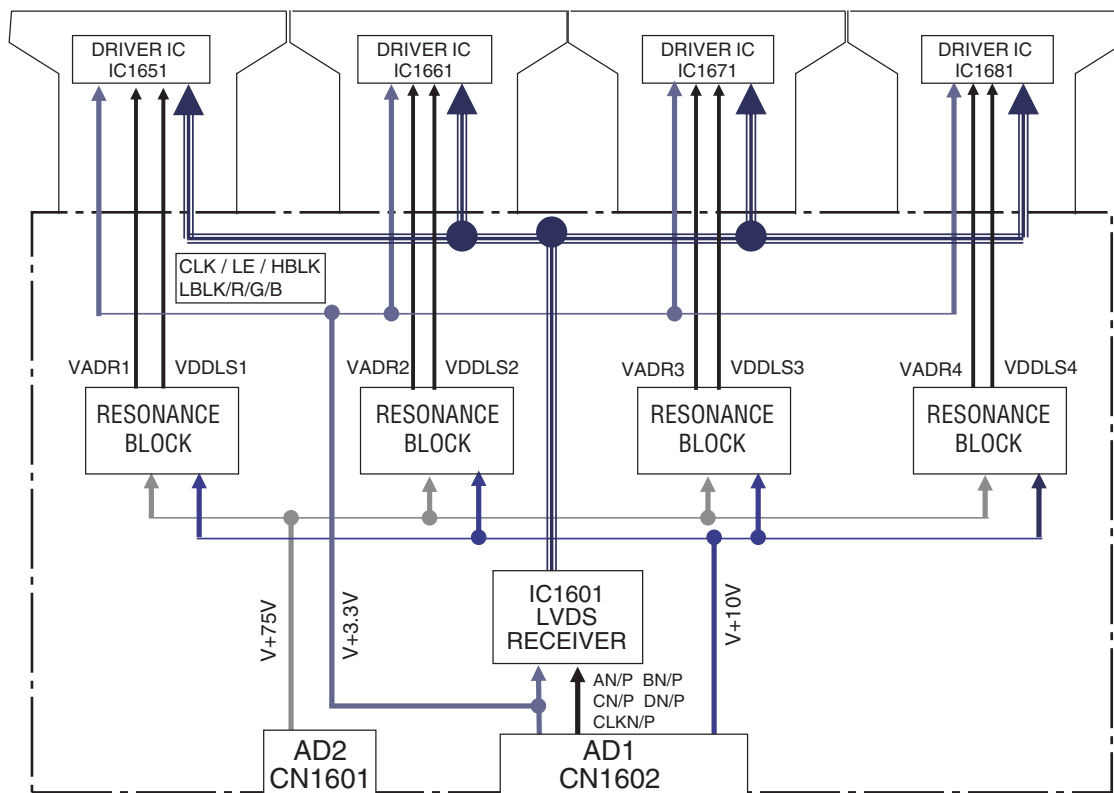
Note:
VYPRST, VSNOFS, VYKOF512, VYKOF53, VYKOF54
VXKOF51 and VXKOF52 voltages are electrical volume controls.

50F SCAN A, B ASSYS

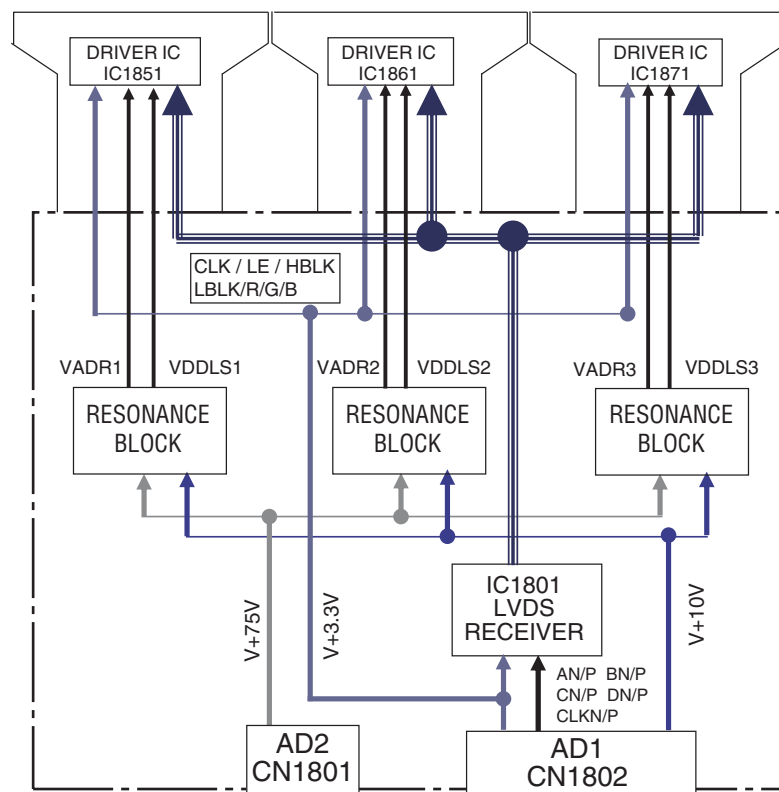
5 6 7 8

4.9 50F ADDRESS L and S ASSYS

50F ADDRESS L ASSY

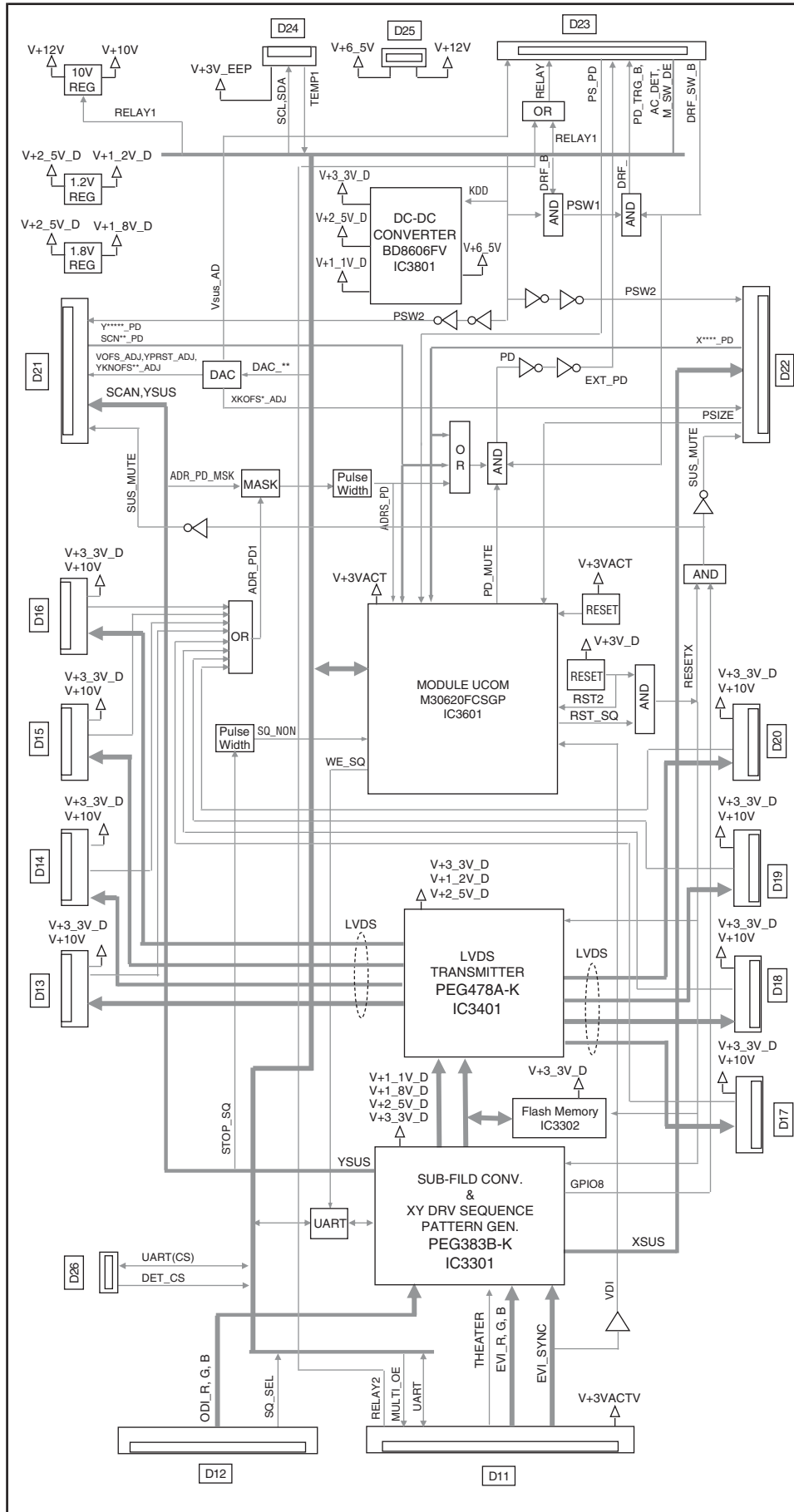


50F ADDRESS S ASSY



4.10 50F DIGITAL ASSY

50F DIGITAL ASSY



■

5

■

6

■

7

■

8

■

A

■

B

■

C

■

D

■

E

■

F

■

5

■

6

■

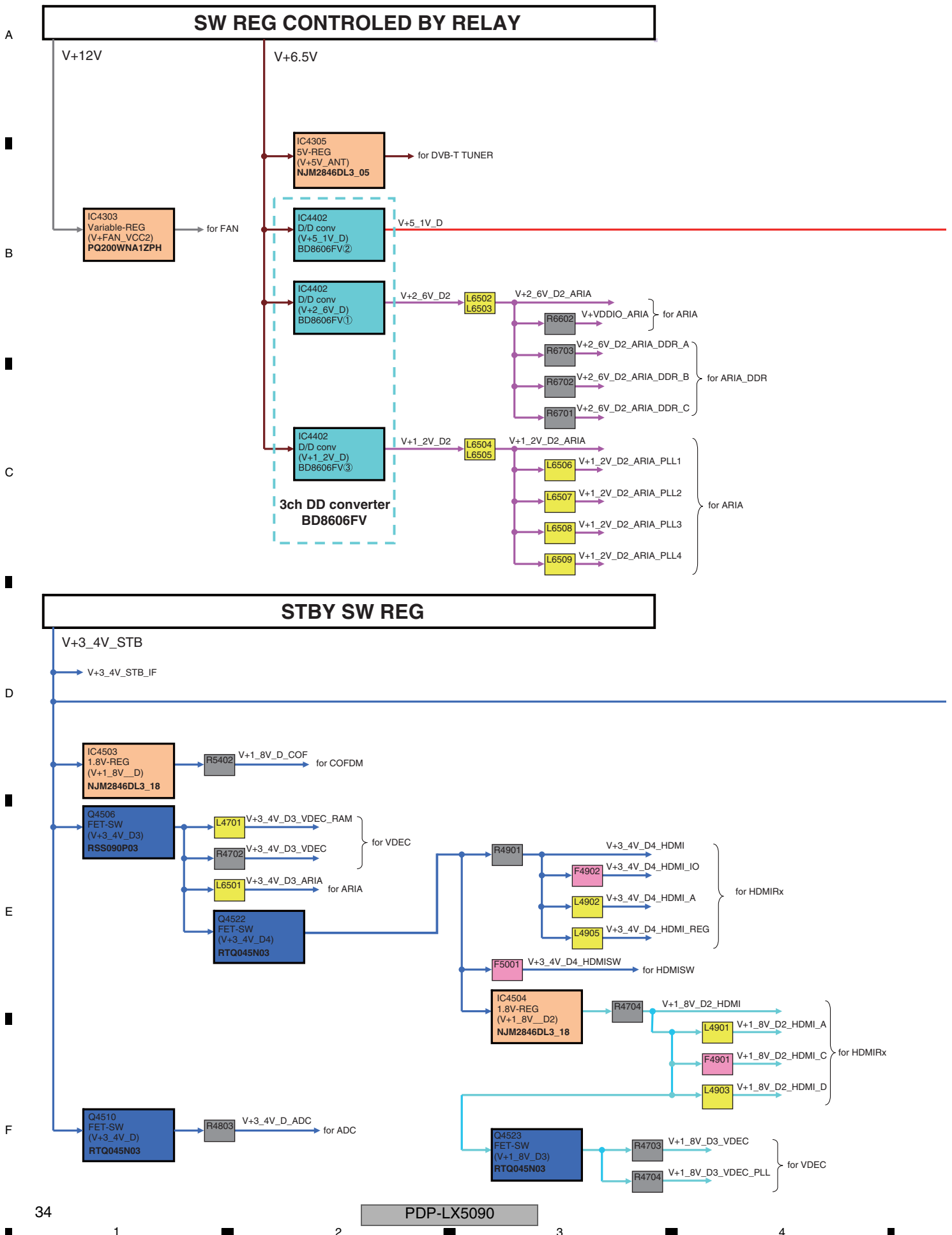
7

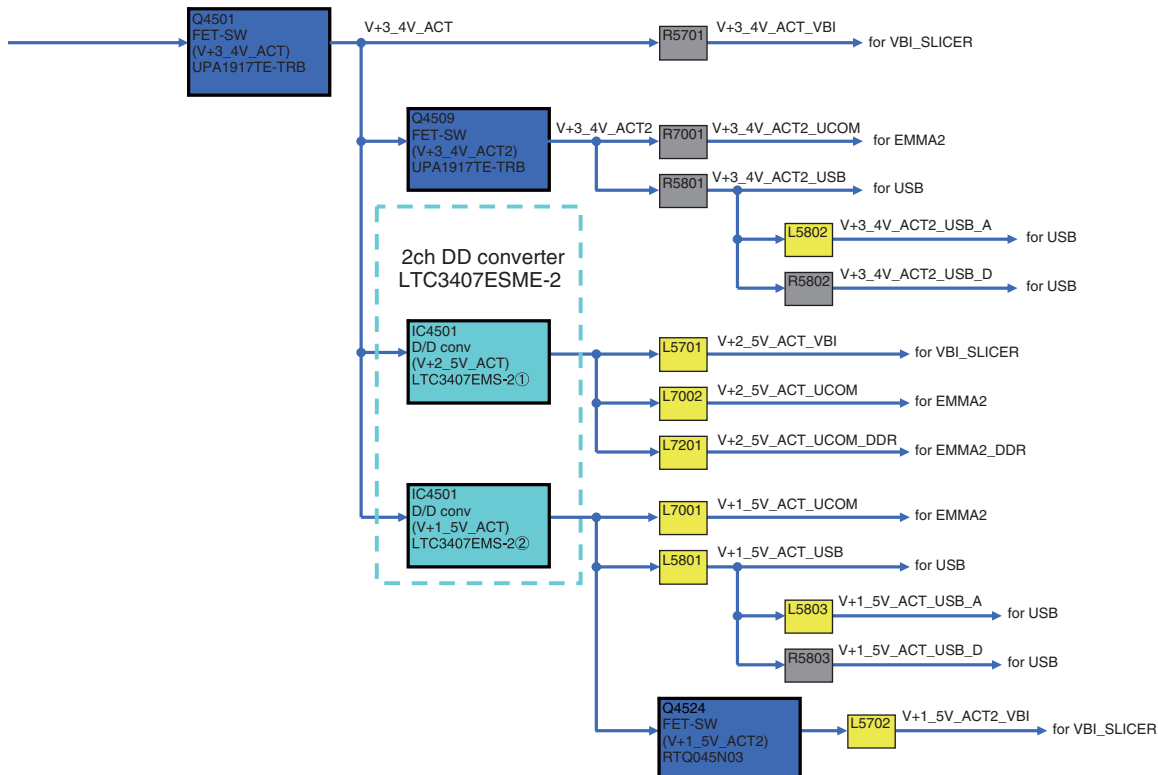
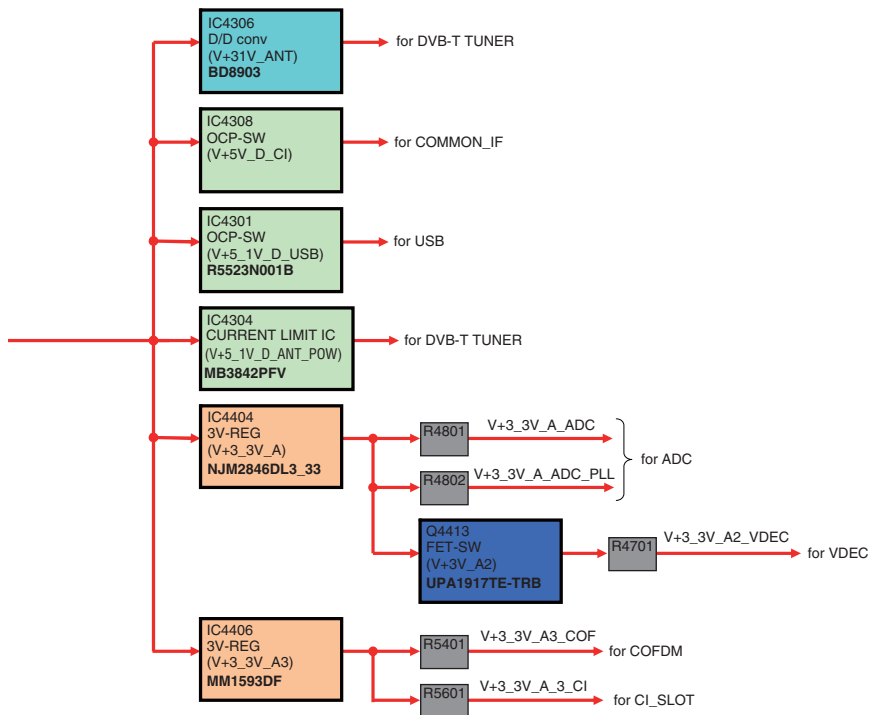
■

8

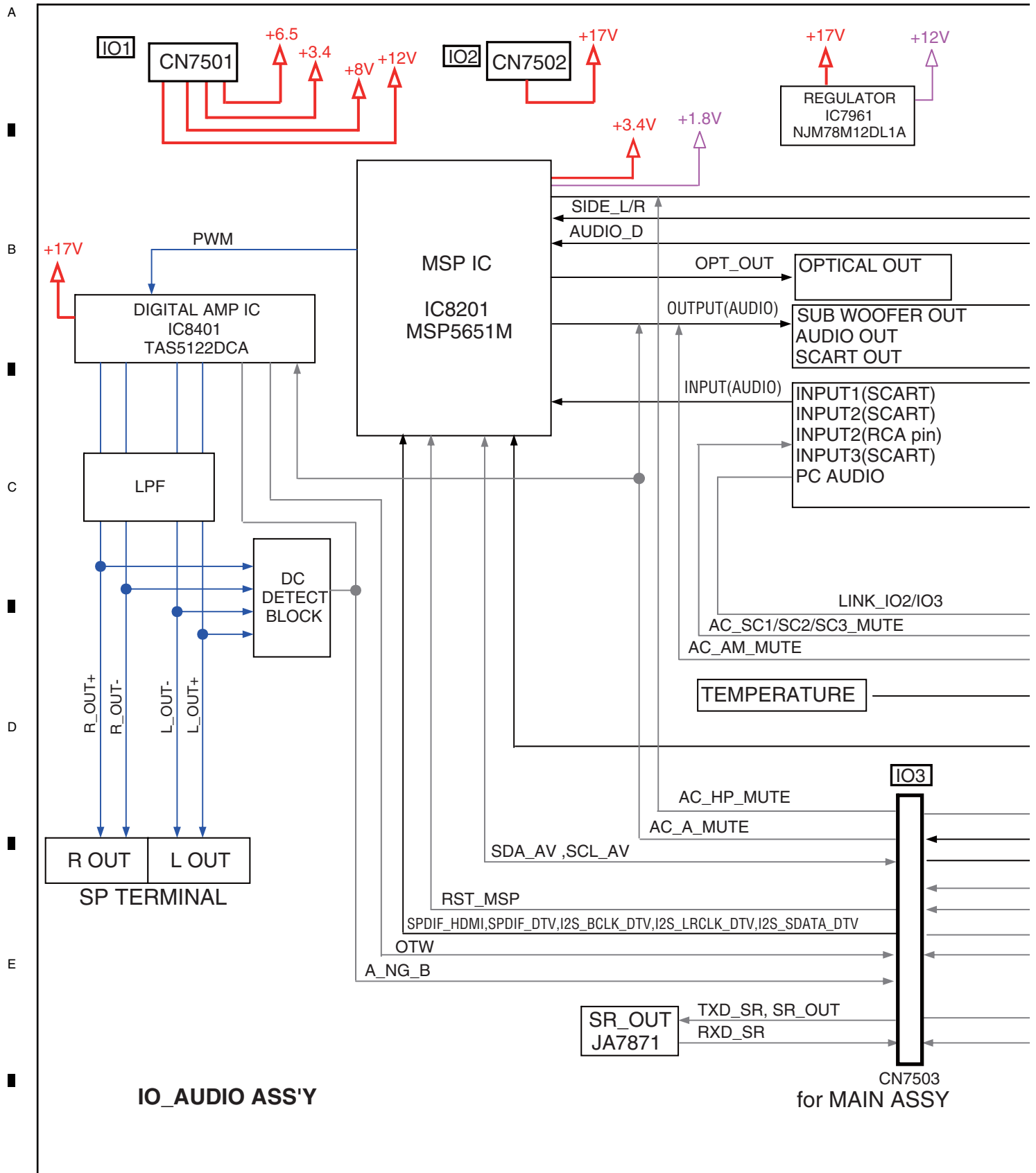
■

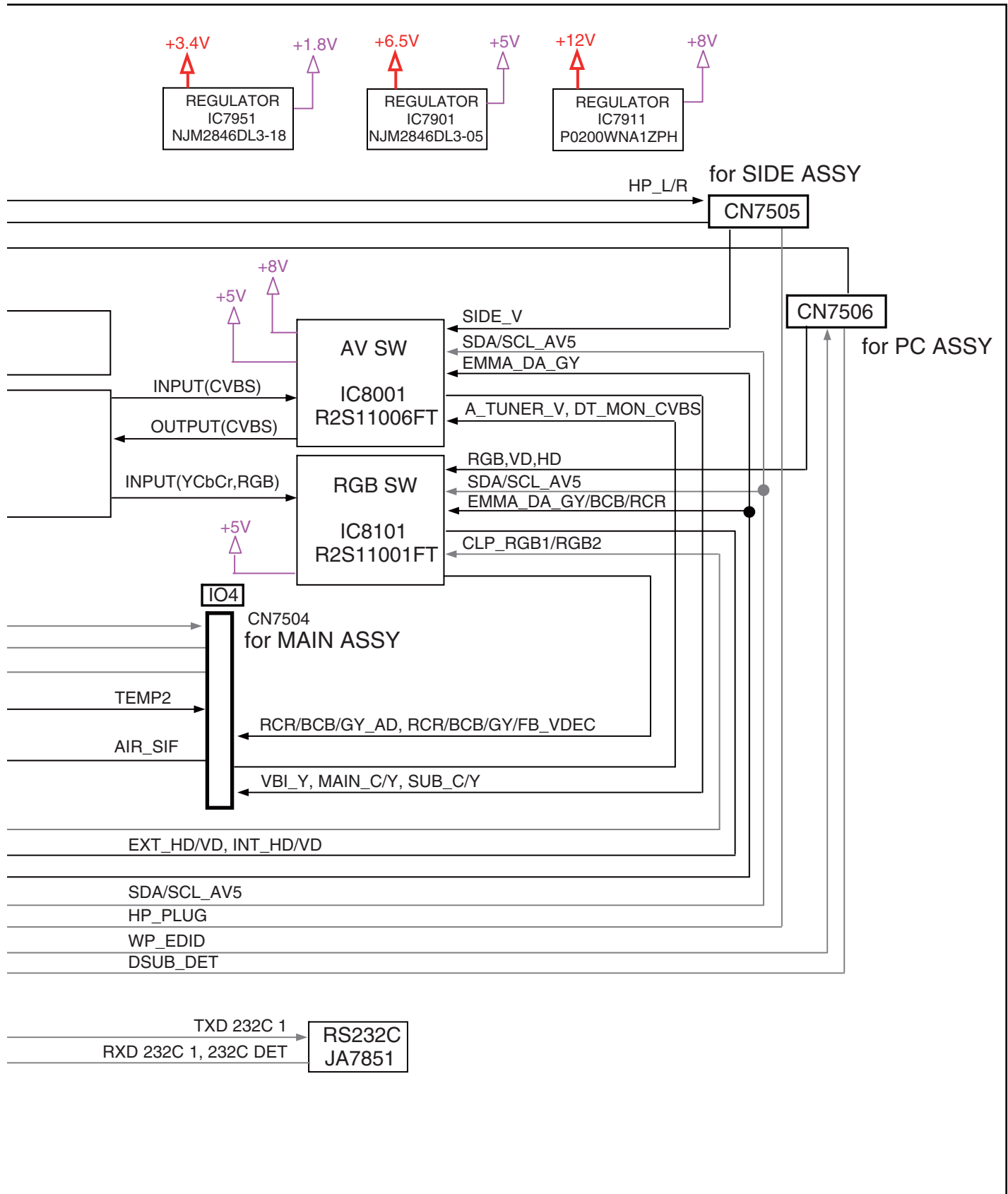
4.11 POWER SUPPLY BLOCK of MAIN ASSY



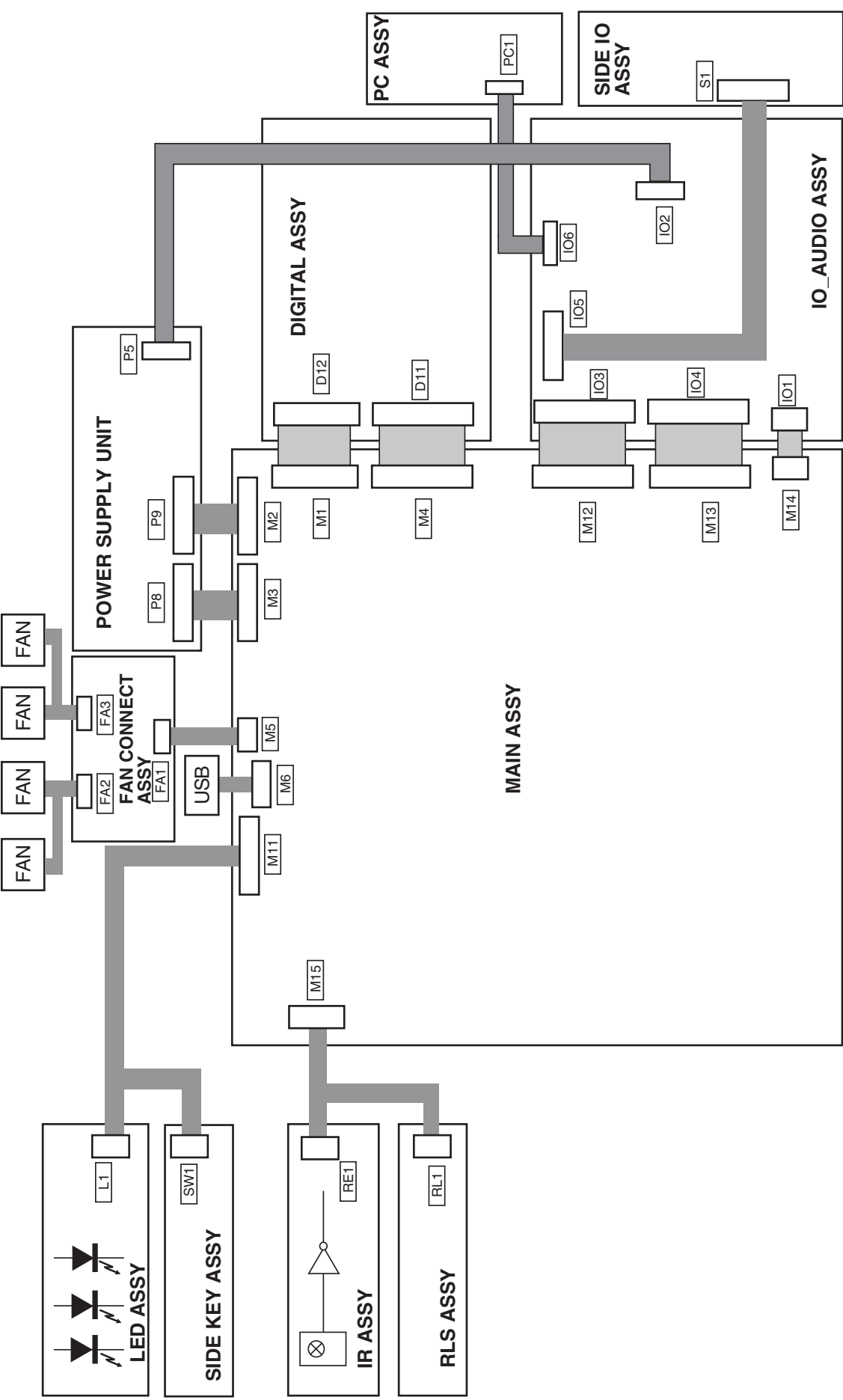


4.12 IO_AUDIO ASSY





4.13 LED and IR ASSYS



5. DIAGNOSIS

5.1 POWER SUPPLY OPERATION

[1] LED DISPLAY INFORMATION

LED Pattern

Status	LED	LED Pattern/Remarks				
AC OFF or Main Power Switch OFF	Blue Red Orange					
Standby Power Management	Blue Red Orange					
Power On	Blue Red Orange					
Power-Down	Blue Red Orange	Once 500ms	Twice	n times	2.5s	Once *1
Shutdown	Blue Red Orange	500ms Once	Twice	n times	2.5s	Once *2
Shutdown (Subcategory flashing)	Blue Red Orange	500ms Once 500ms	Twice	n times	2.5s	Once *2 *3
No digital adjustment data copied for backup	Blue Red Orange					
Updating the PC	Blue Red Orange					
During factory operation	Blue Red Orange					
During DTB communication inhibit	Blue Red Orange					
During USB update	Blue Red Orange					
Updating of USB is finished normally.	Blue Red Orange					
Updating of USB is abnormally finished.	Blue Red Orange					
Sleep timer	Blue Red Orange					
During reservation video recording (Unit: Standby)	Blue Red Orange					
During reservation video recording (Unit: ON)	Blue Red Orange					

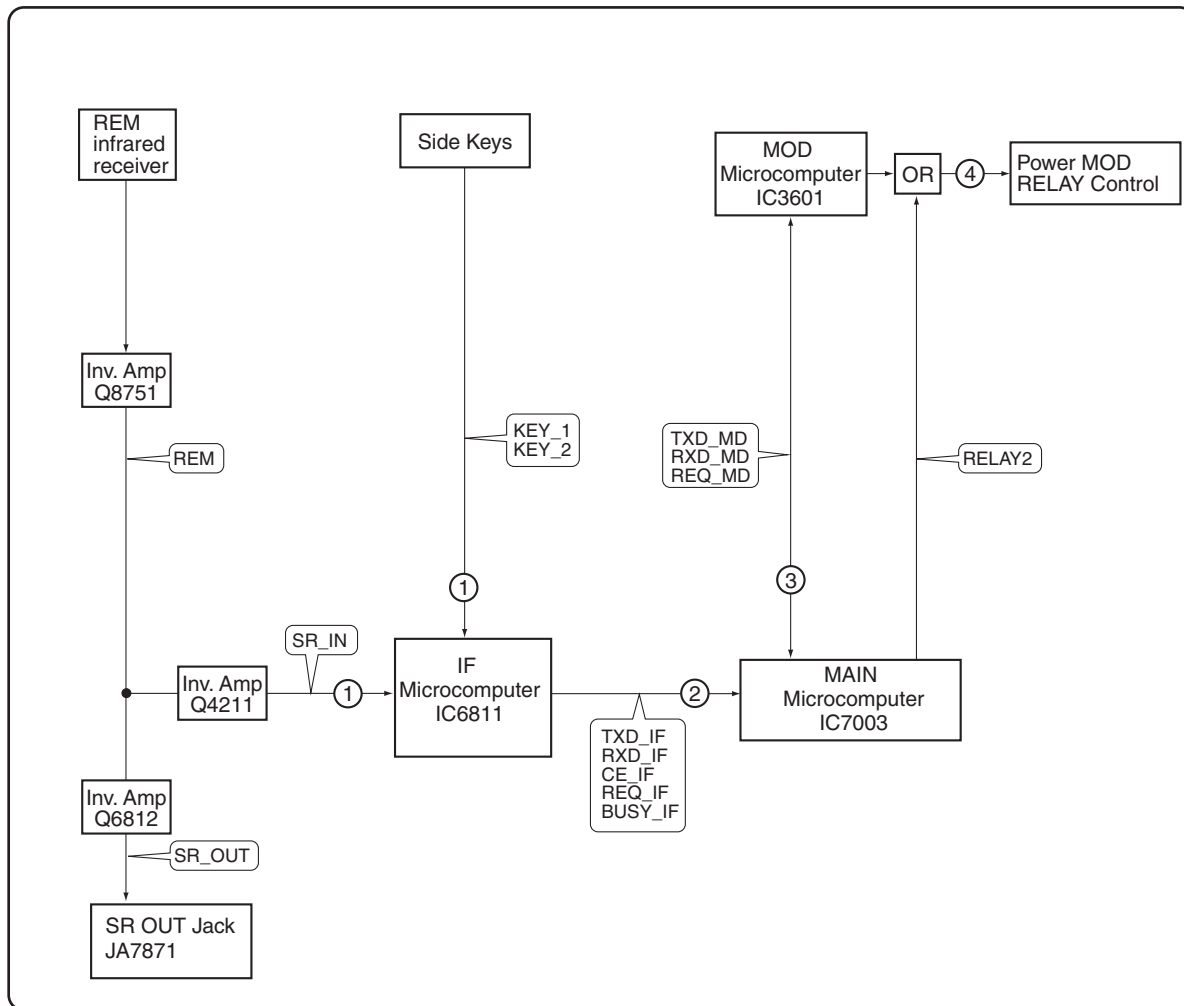
*1: Notify upon the power-down content by Red LED flashing number of times.
 *2: Notify upon the shutdown content by Blue LED flashing number of times
 *3: Notify upon the subcategory number by Orange LED flashing number of times.
 *4: PDP-LX5090H only
 *5: Notify upon the abnormal state by Orange LED flashing number of times.

POWER ON

STANDBY

TIMER

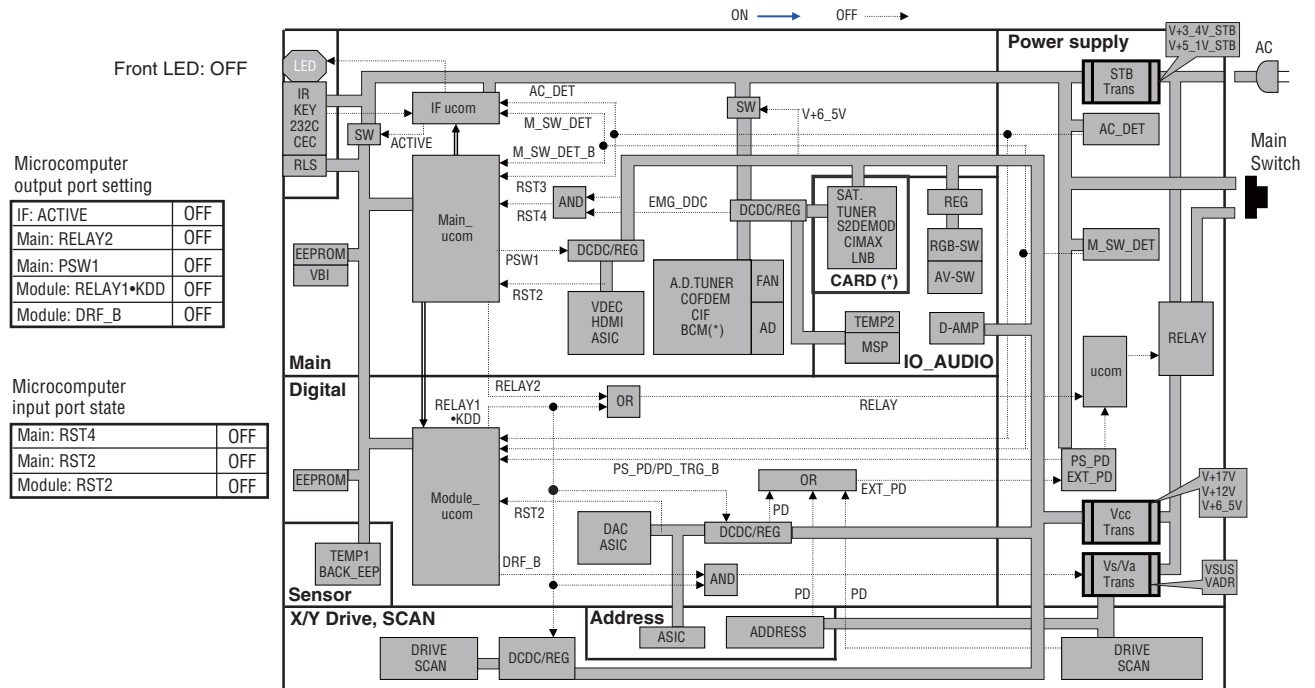
[2] POWER ON SEQUENCE



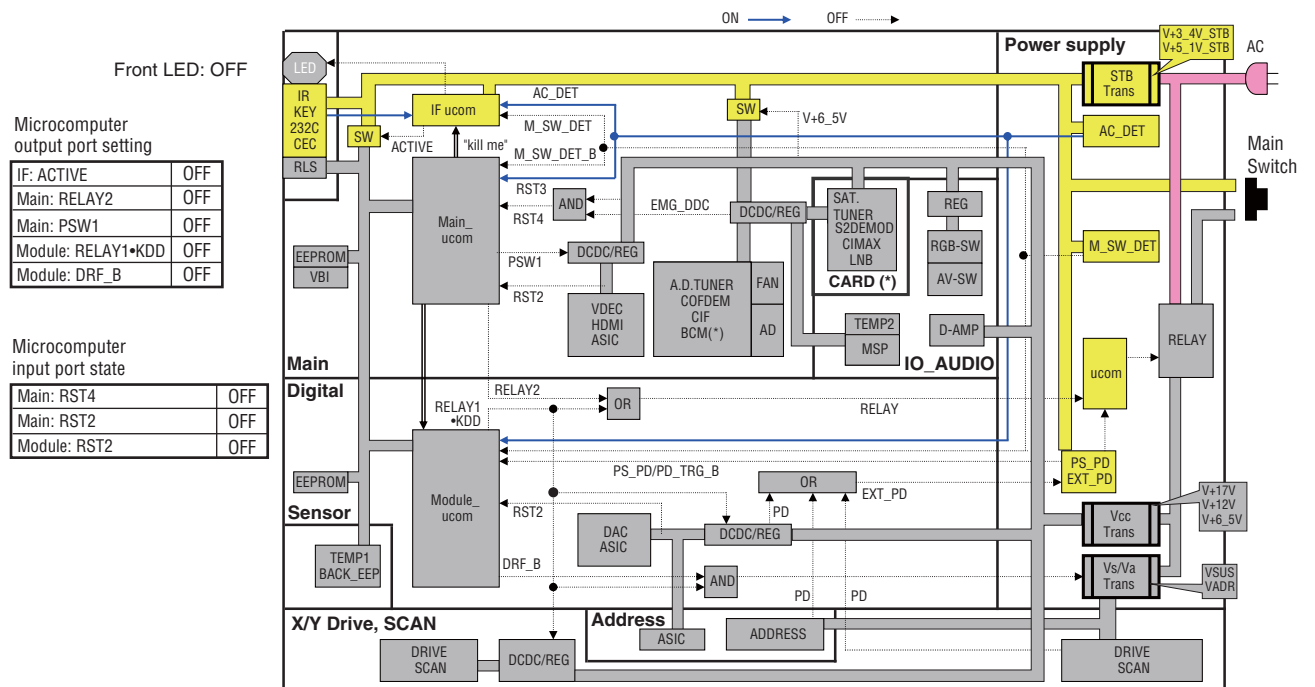
- ① : The remote control (or KEY) signal is input to the IF microcomputer.
 ② : The IF microcomputer sends the operation data of the remote control unit (or KEY) to the main microcomputer.
 ③ : The main microcomputer issues a startup command (PON) to the MOD microcomputer.
 ④ : The relay is controlled with logical OR interpretation of control signals by the main microcomputer and module (MOD) microcomputer.

[3] DETAILS OF POWER ON SEQUENCE

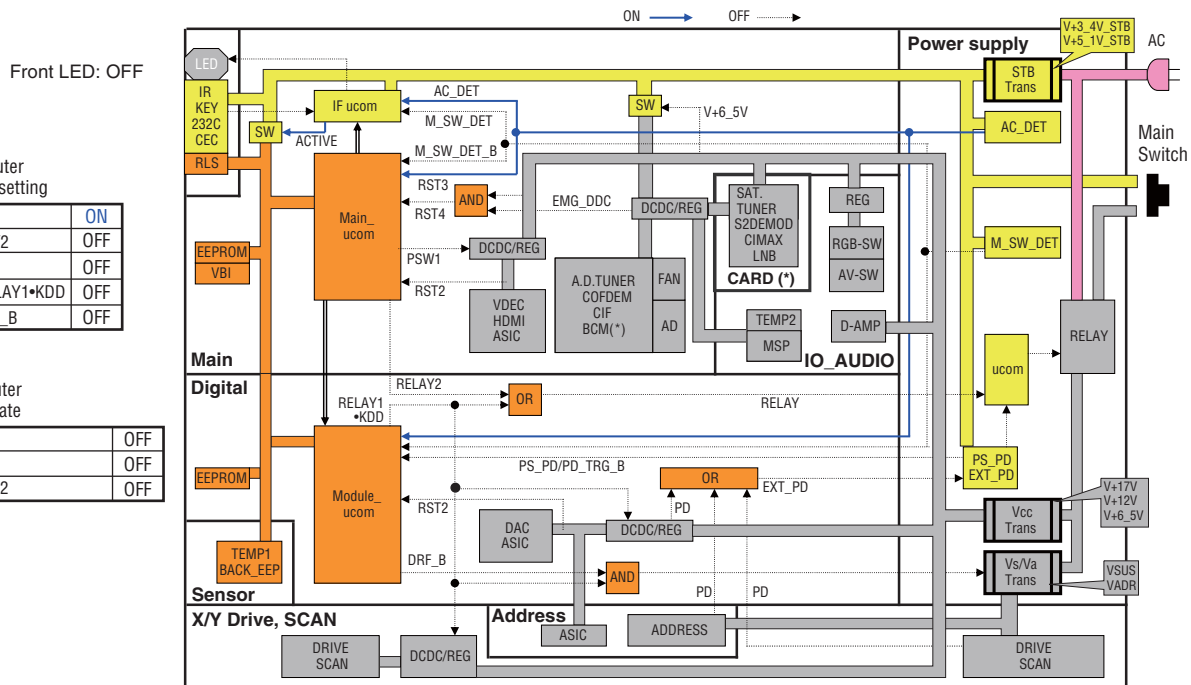
AC-OFF Main Power OFF, Passive Standby



AC-ON Main Power OFF, Passive Standby



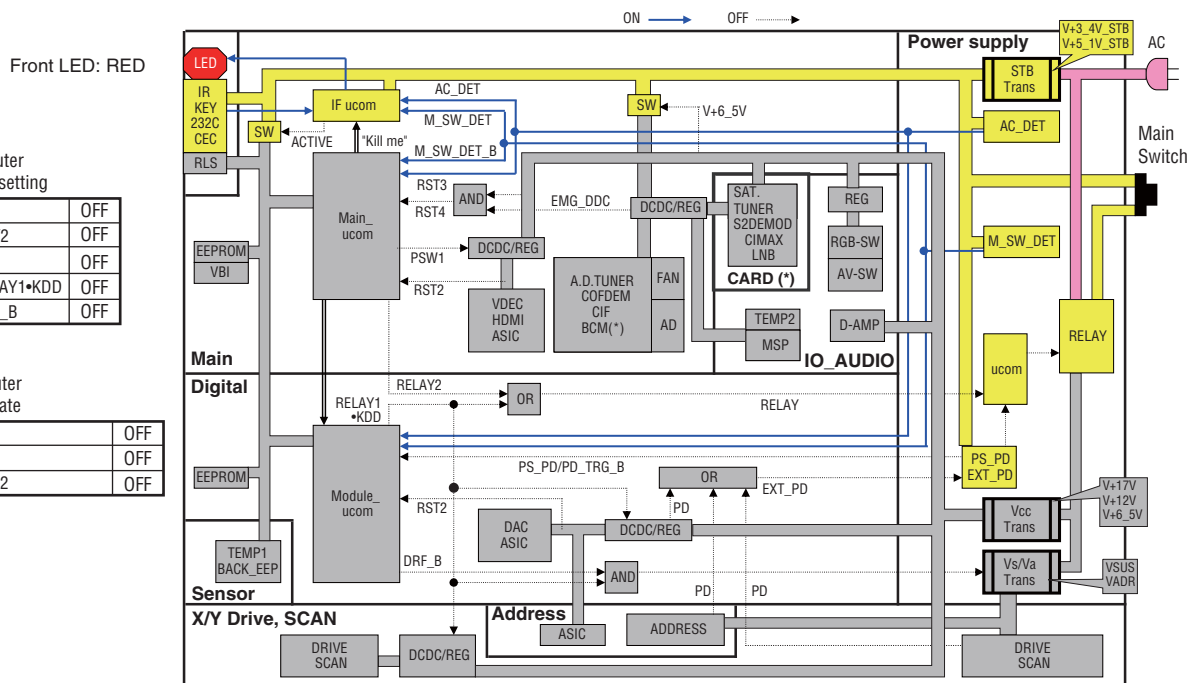
AC-ON Main Power OFF, Active Standby



Periphery of the IF, Main and Module microcomputers are operated.
The user operation is invalid due to Main Switch off.

(*): PDP-LX5090H only

AC-ON Main Power ON, Passive Standby



Only the periphery of the IF microcomputer is electrified.
The user operation is valid.

(*): PDP-LX5090H only

A



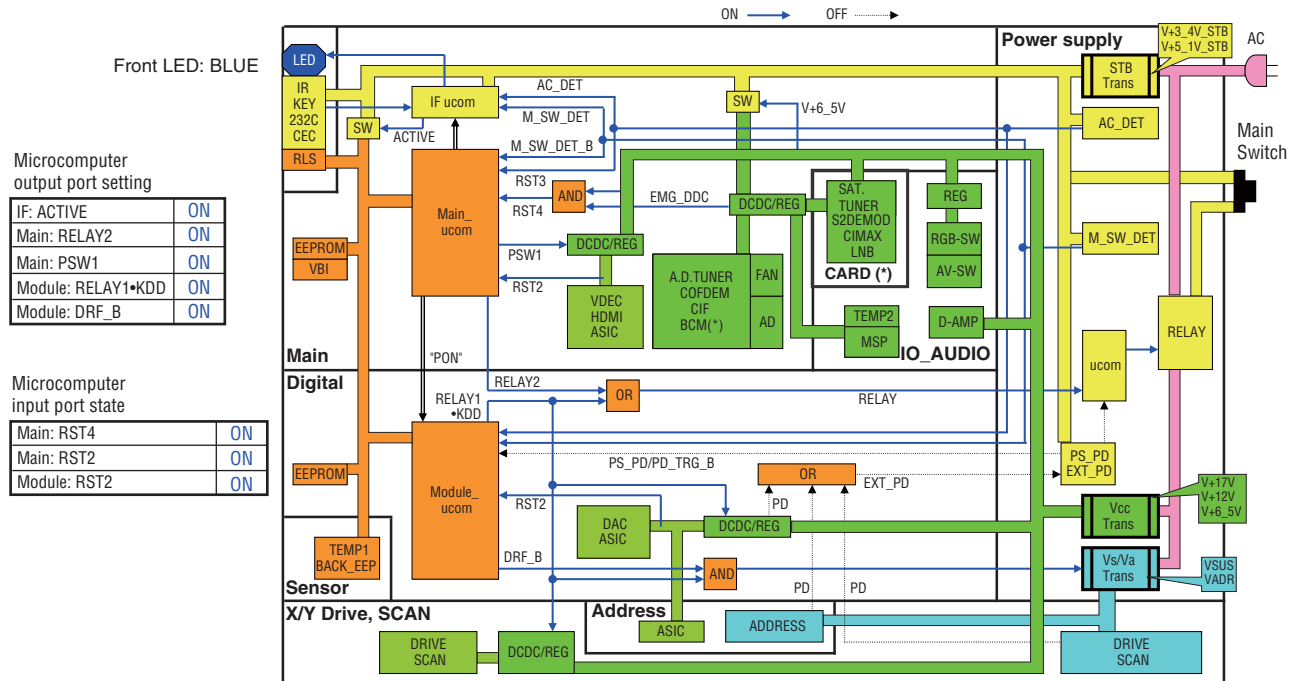
C

□



F

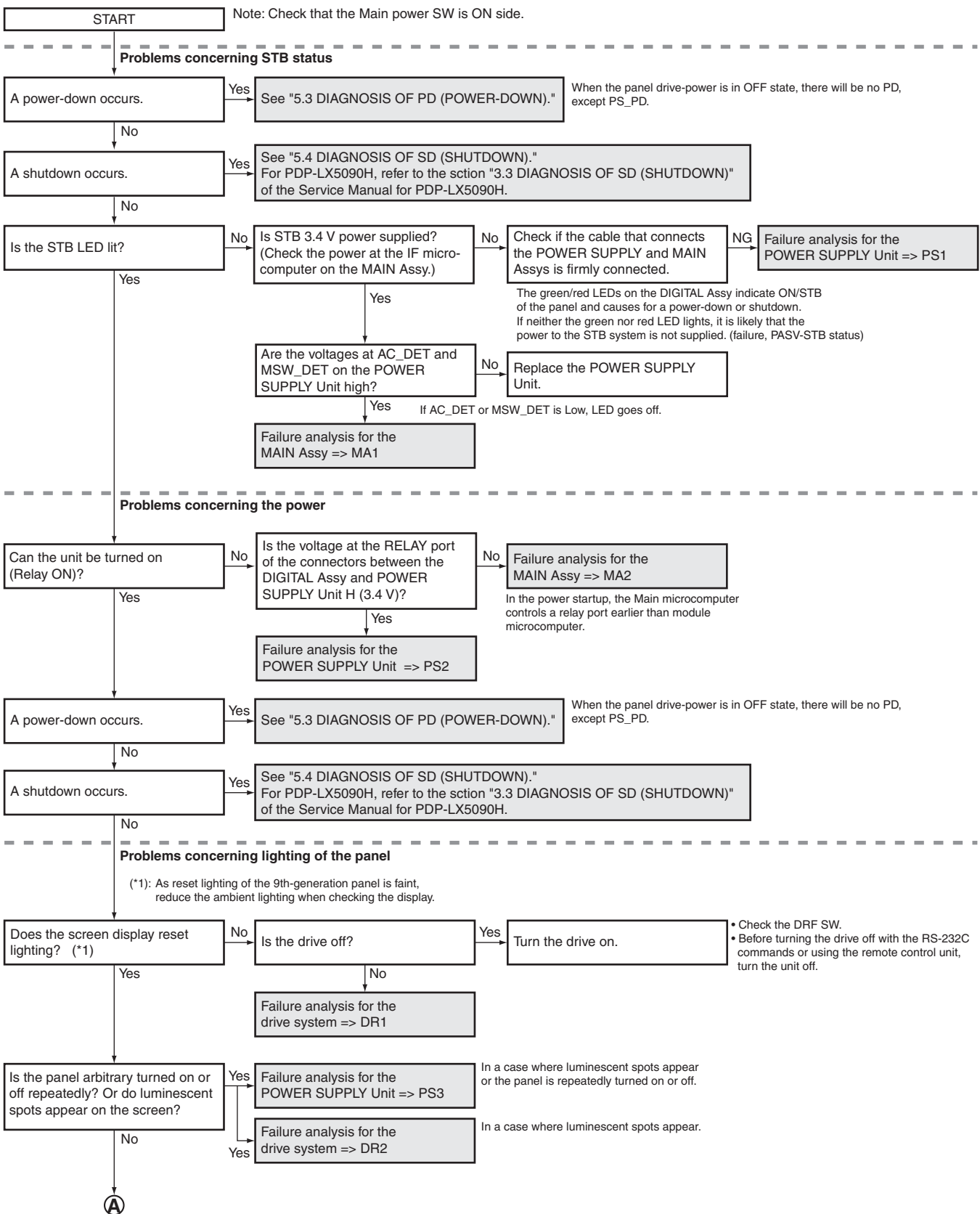
AC-ON Main Power ON, PDP Screen ON



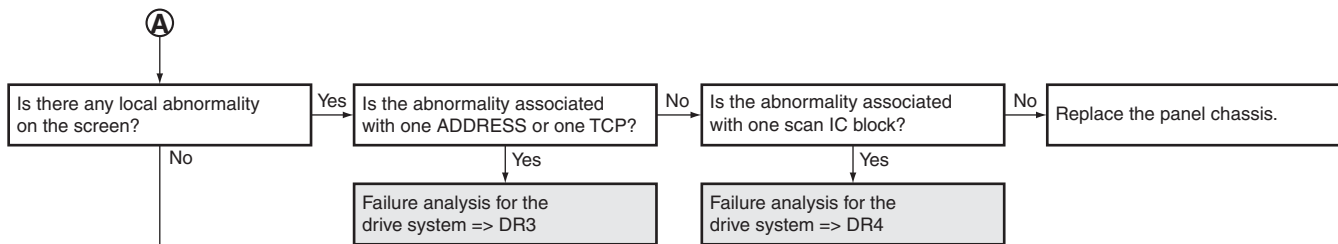
5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

[1] WHOLE UNIT

Flowchart of Failure Analysis for The Whole Unit



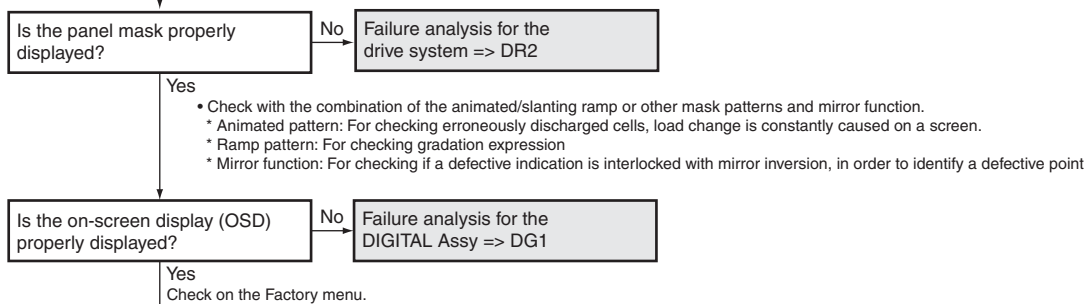
A



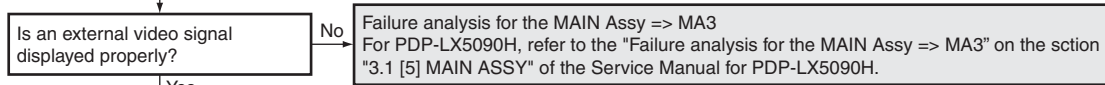
In the subsequent diagnostic steps, it is most likely that the multi base section is in failure.

B

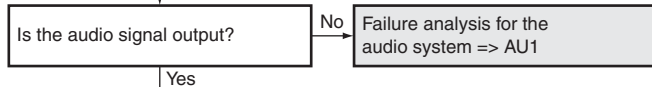
Problems concerning video display



C



Problems concerning the audio output



D

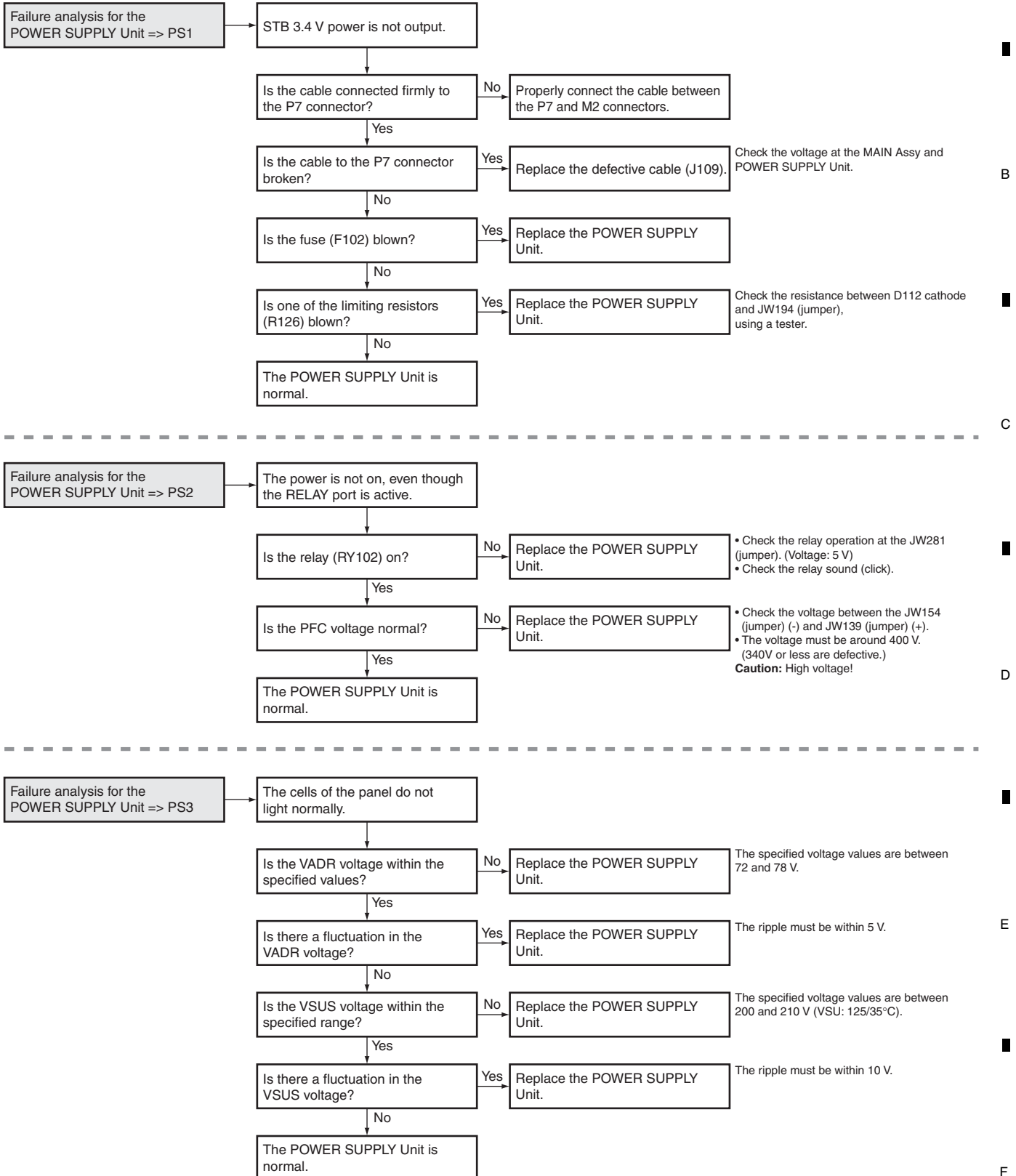
Specific failure whose cause is difficult to identify in the initial stage

E

F

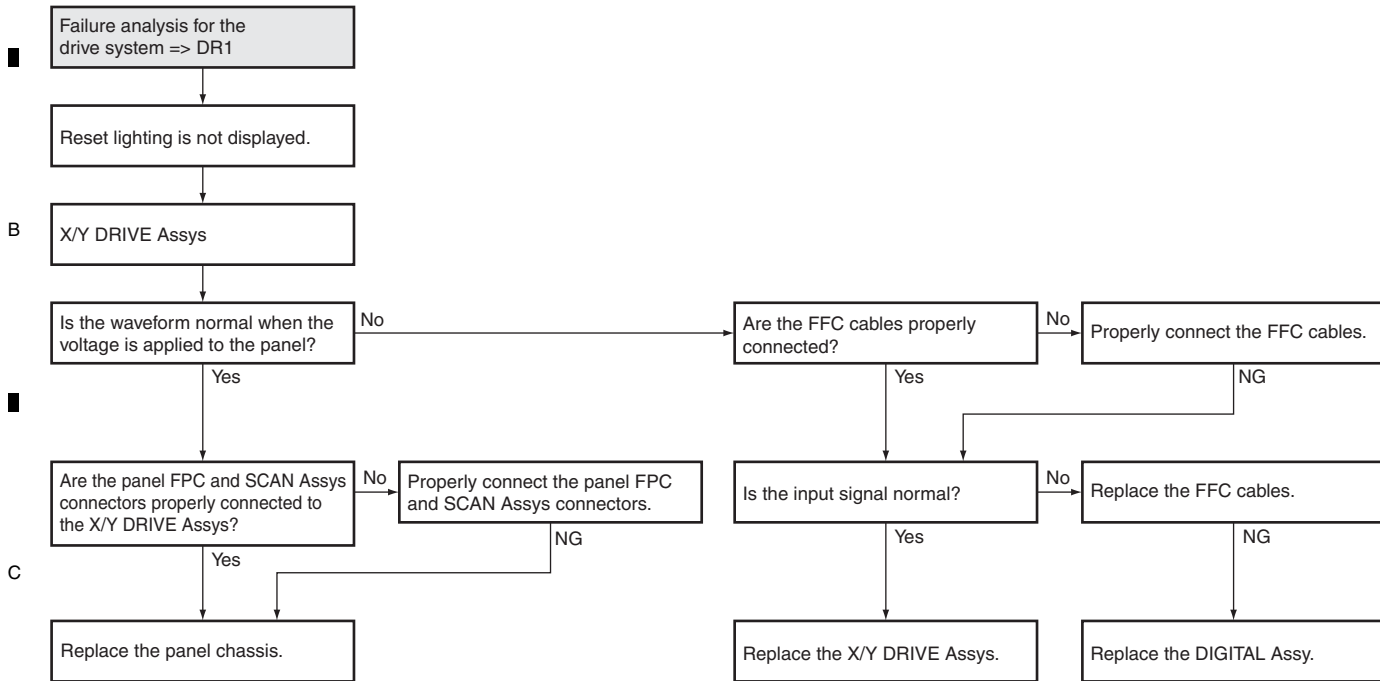
[2] POWER SUPPLY UNIT

Flowchart of Failure Analysis for The POWER SUPPLY Unit



A [3] DRIVE ASSY

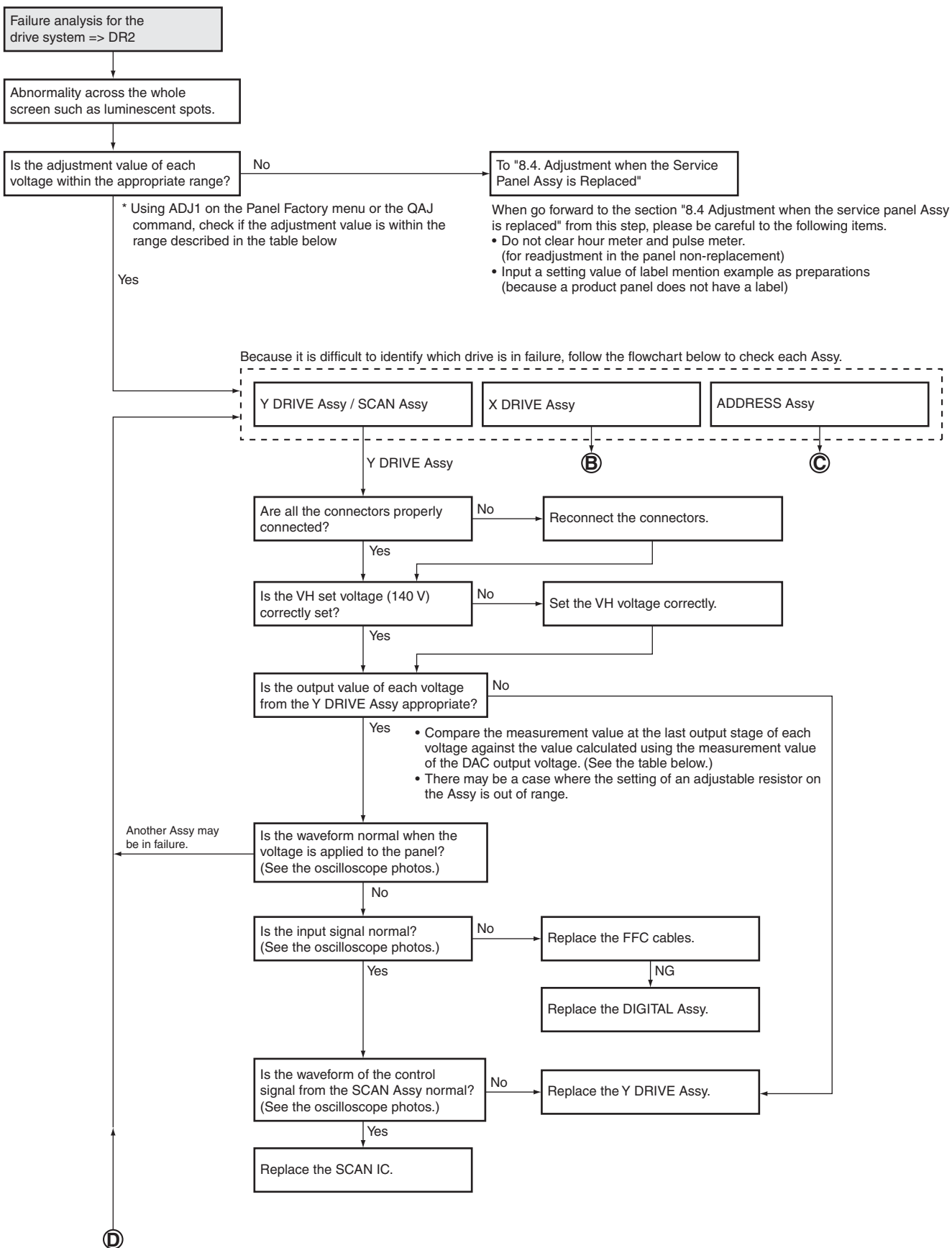
Flowchart of Failure Analysis for The Drive Assy



D

E

F



A

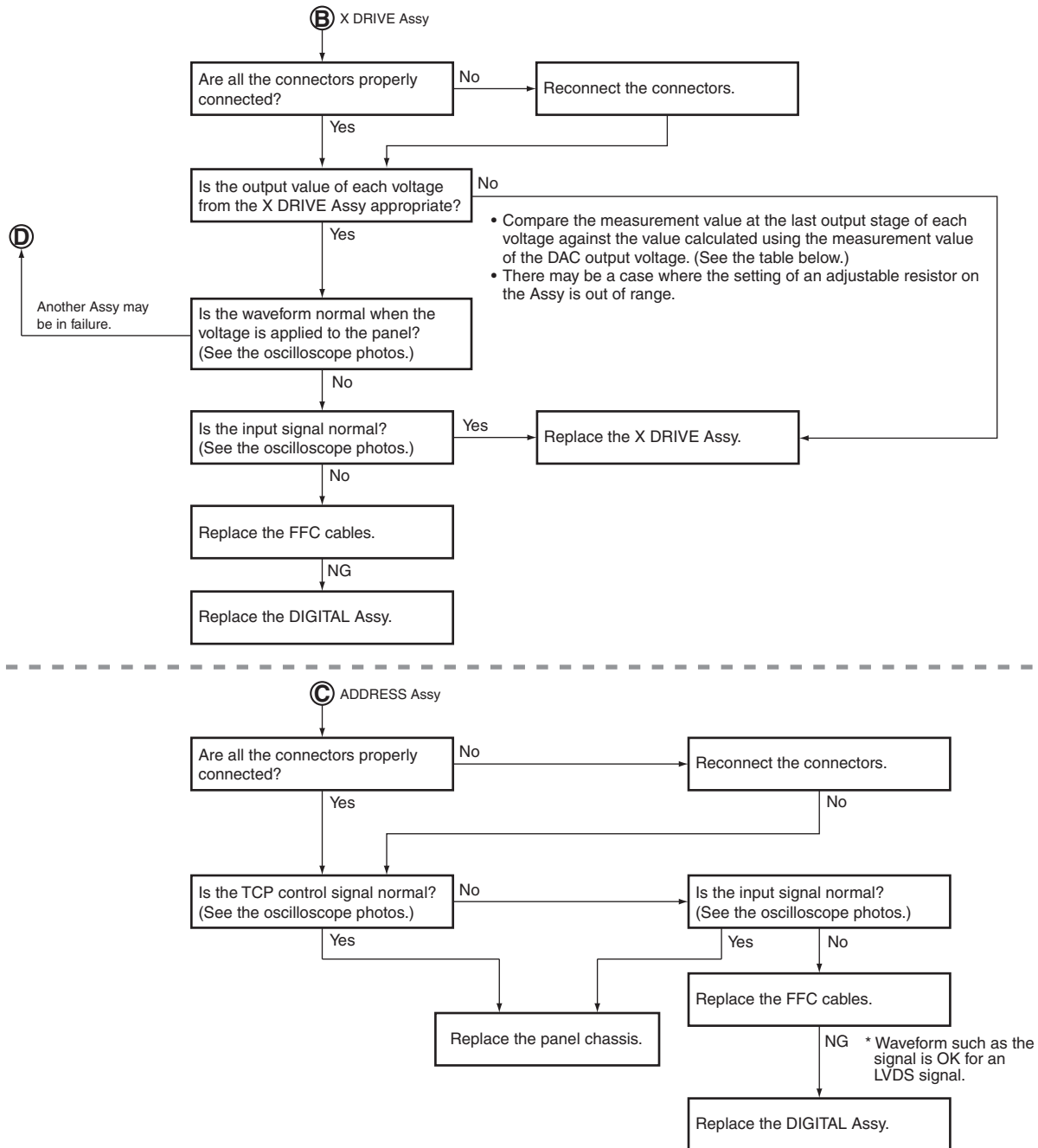
B

C

D

E

F



Assy Name	Voltage to be Checked (V)	Adjustable Range		Measurement Point		Computation Formula for Voltage (Absolute Value)	
		60-inch	50-inch	Output at the Last Stage	DAC Output (*2)	Computation Using DAC Output Voltage (V)	Computation Using Adjustment Value (*4)
Y DRIVE Assy	VSNOFS	040 to 085	101 to 157	CN2404 (*1)	Lower side of R2723 (*3)	$VOFS_ADJ \times 13.91 + 55.54$	$VOF \text{ value} \times 0.18 + 9.6$
	VYRST	001 to 056	001 to 074	CN2401 (*1)	Upper side of R2621 (*3)	$VYPRST_ADJ \times 62.495 + 75.2$	$VRP \text{ value} \times 0.81 + 74.4$
	VKN0FS1_2	054 to 107	121 to 164	CN2405 (*1)	Left side of R2754 (*3)	$YVKN0FS1_ADJ \times 36.85 + 159.3$	$(V1F \text{ value} + VYF \text{ value} - 128) \times 0.48 + 158.8$
	VKN0FS3	065 to 117	107 to 149	CN2403 (*1)	Right side of R2757 (*3)	$YVKN0FS3_ADJ \times 36.85 + 159.3$	$(V3F \text{ value} + VYF \text{ value} - 128) \times 0.48 + 158.8$
	VKN0FS4	111 to 164	151 to 193	CN2406 (*1)	Right side of R2755 (*3)	$YVKN0FS4_ADJ \times 36.85 + 159.3$	$(V4F \text{ value} + VYF \text{ value} - 128) \times 0.48 + 158.8$
X DRIVE Assy	XK0FS1	105	085	CN1302 (*1)	K1402 (*1)	$XKNOFS1_ADJ \times 27.3 + 30$	$VX1 \text{ value} \times 0.35 + 29.7$
	XK0FS2	063	047	CN1301 (*1)	K1401 (*1)	$XKNOFS2_ADJ \times 25.0 + 69.8$	$VX2 \text{ value} \times 0.32 + 69.5$

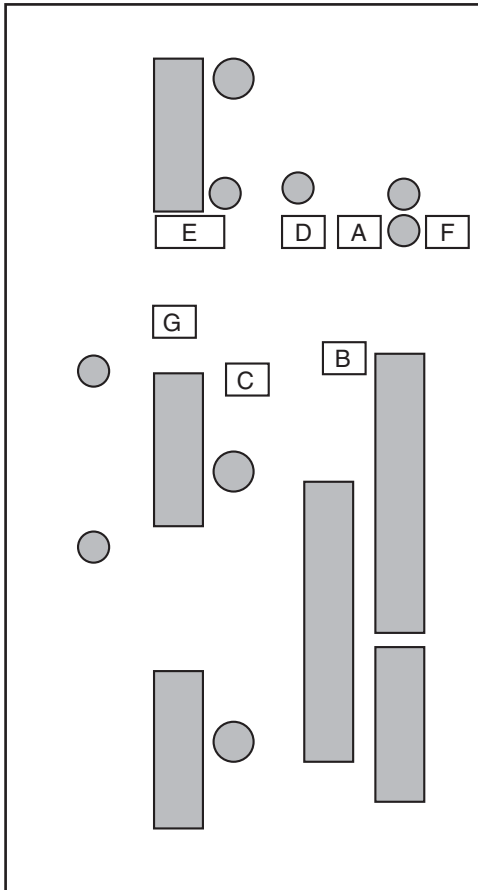
(*1): These parts have not been mounted.

(*2): It is recommended to measure the DAC output voltage with the drive off.

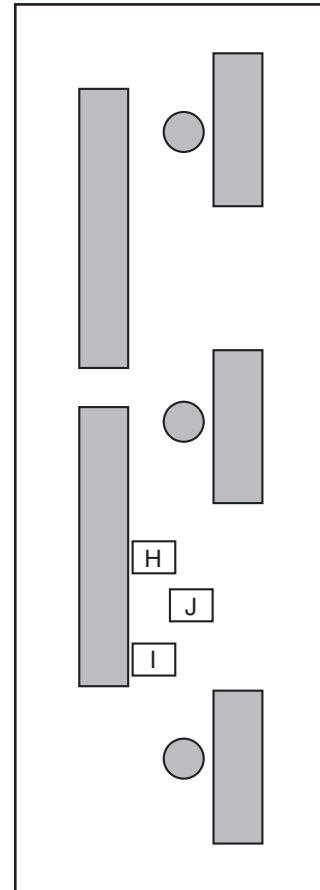
(*3): View when the Assy is mounted on the unit and viewed from the rear.

(*4): The value calculated using an adjustment value may be different from the value measured at the last output stage, because various corrections such as temperature correction are not taken into consideration.

Diagrammatic view of the Y DRIVE Assy

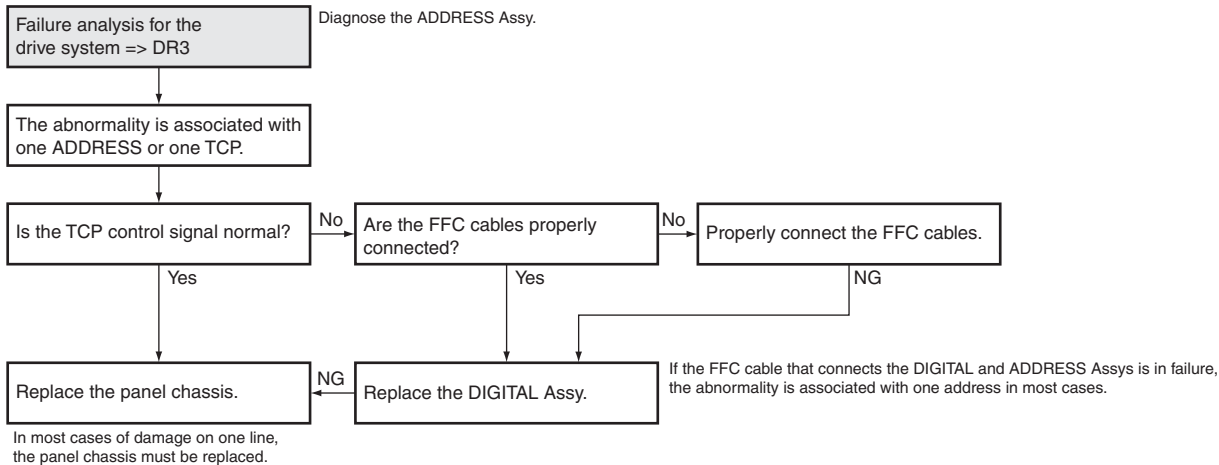


Diagrammatic view of the X DRIVE Assy



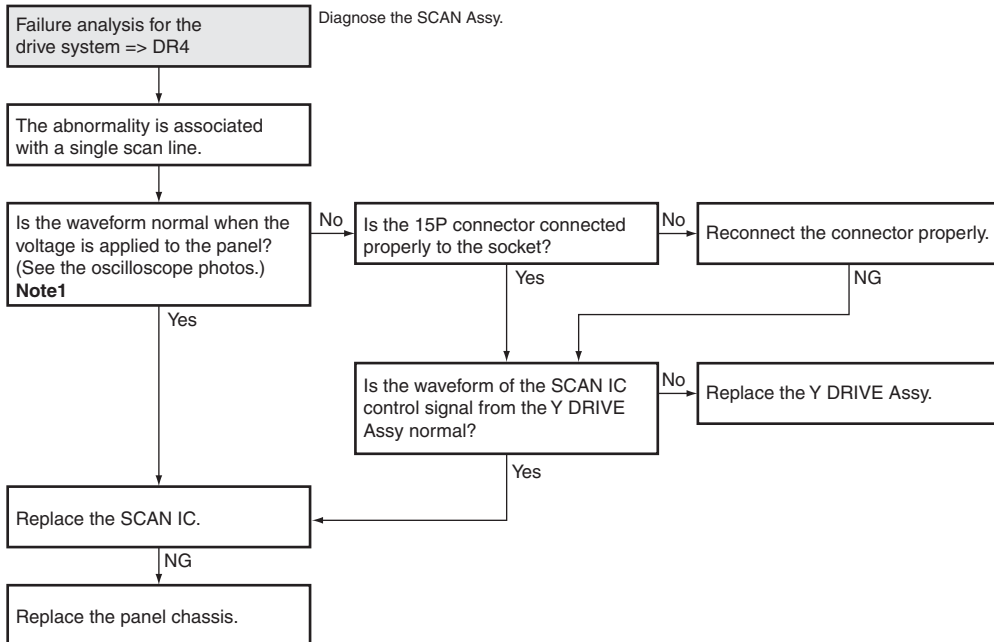
A	R2754,R2755,R2757
B	R2723
C	R2621
D	CN2405
E	CN2403,CN2406
F	CN2404
G	CN2401
H	K1401
I	K1402
J	CN1301,CN1302

A



B

C



D

E

Note 1:

In a case where confirmation of the waveform for a particular line is impossible with an oscilloscope, it is possible to identify a defective line by lighting a particular line, using the following commands: (The SCAN IC outputting each line refers to the table.)

PON
FAY
MKRS01
BSMS01 (Command for reducing phosphor burn-in)
\$250000**** (In place of ****, input a figure between 0001 and 1080, which denotes an ordinal number of a particular line.)

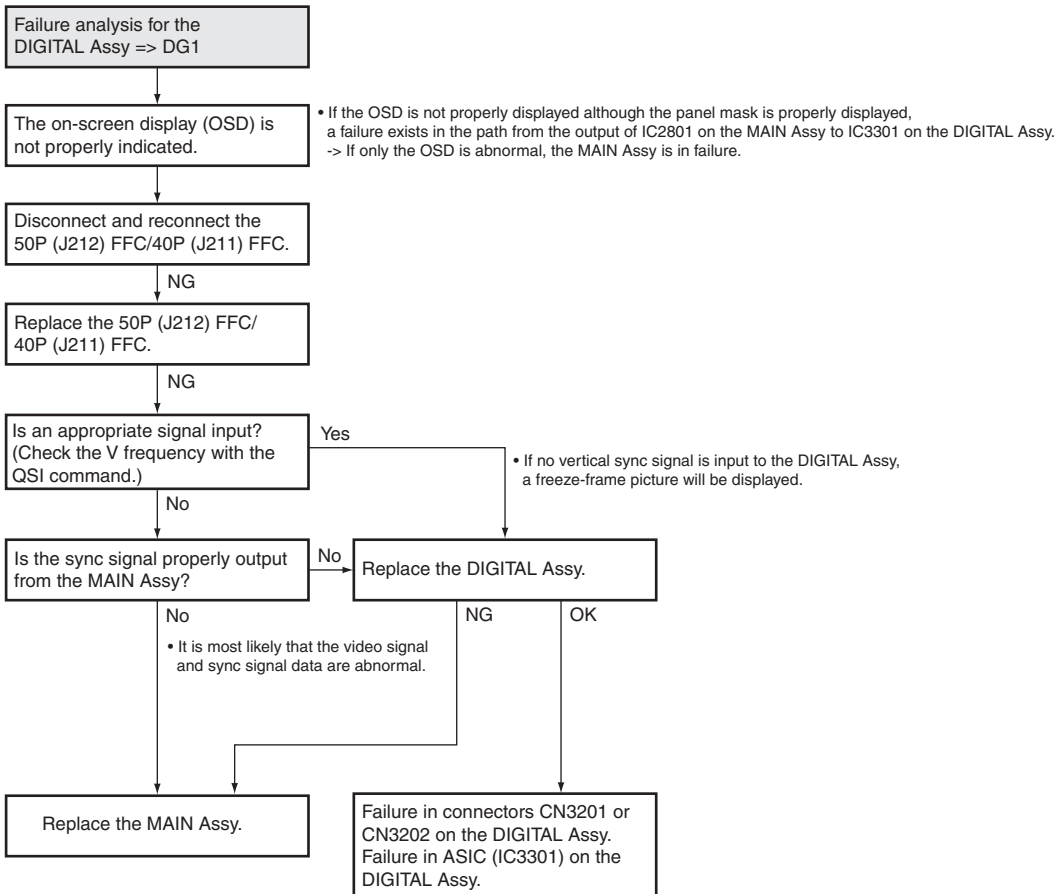
With the above commands, a particular line lights. Be careful to light a line for as short a time as possible, to avoid phosphor burn-in.
After a particular line is identified, display an all-white screen to protect the screen from burn-in.

F

IC No.	Line Number	Object Line
No 1	66	0001 to 0066
No 2	68	0067 to 0134
No 3	68	0135 to 0202
No 4	68	0203 to 0270
No 5	68	0271 to 0338
No 6	68	0339 to 0406
No 7	68	0407 to 0474
No 8	66	0475 to 0540
No 9	66	0541 to 0606
No 10	68	0607 to 0674
No 11	68	0675 to 0742
No 12	68	0743 to 0810
No 13	68	0811 to 0878
No 14	68	0879 to 0946
No 15	68	0947 to 1014
No 16	66	1015 to 1080

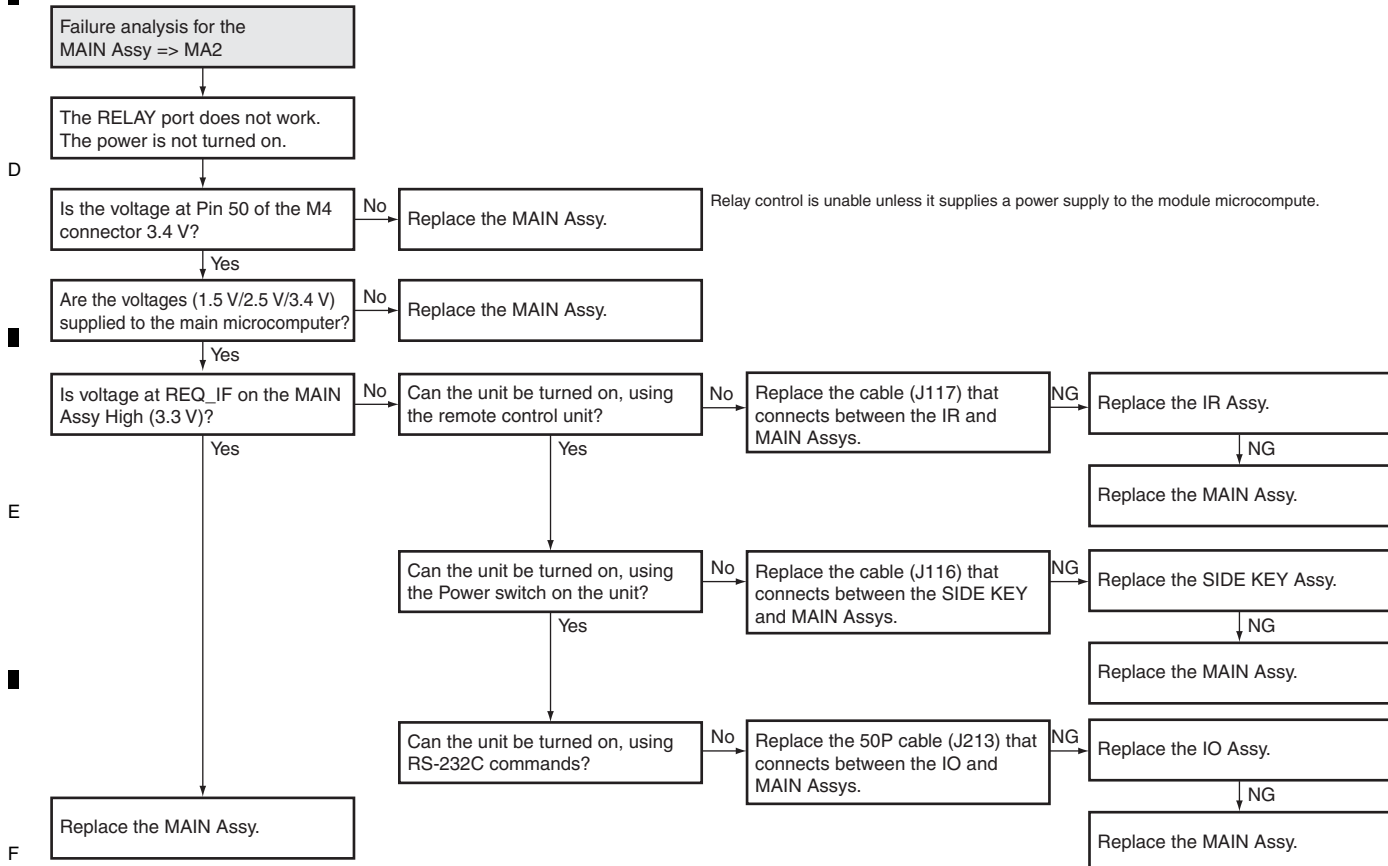
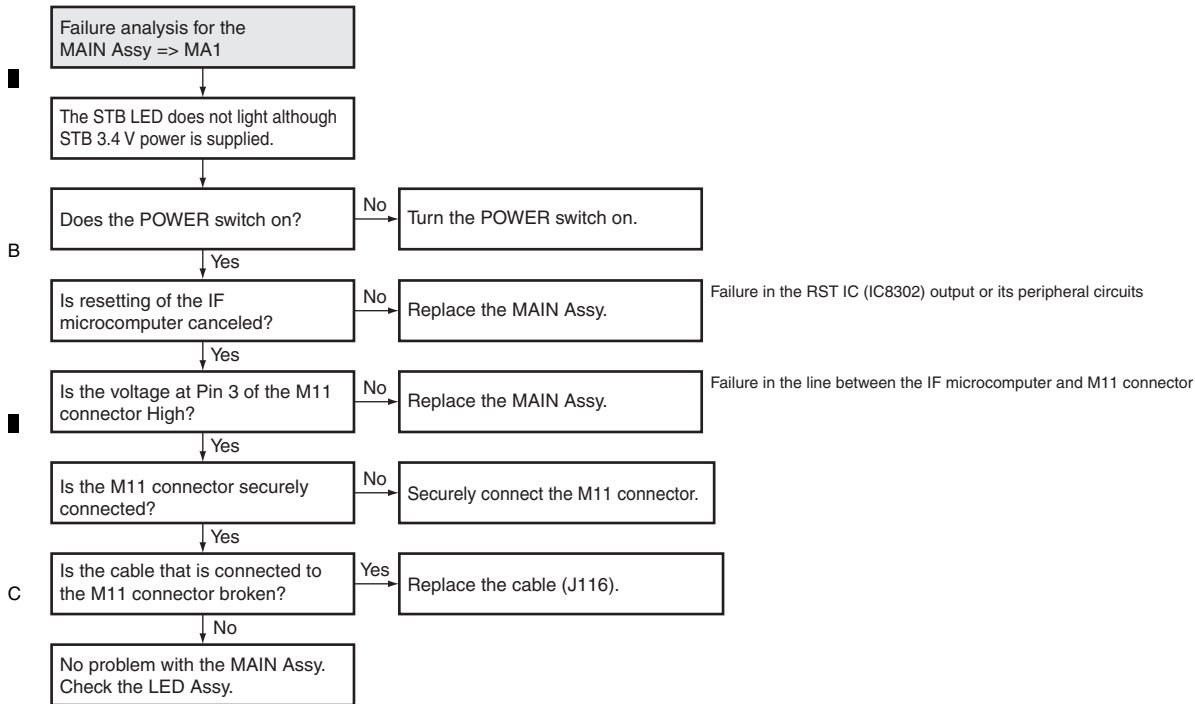
[4] DIGITAL ASSY

Flowchart of Failure Analysis for The DIGITAL Assy

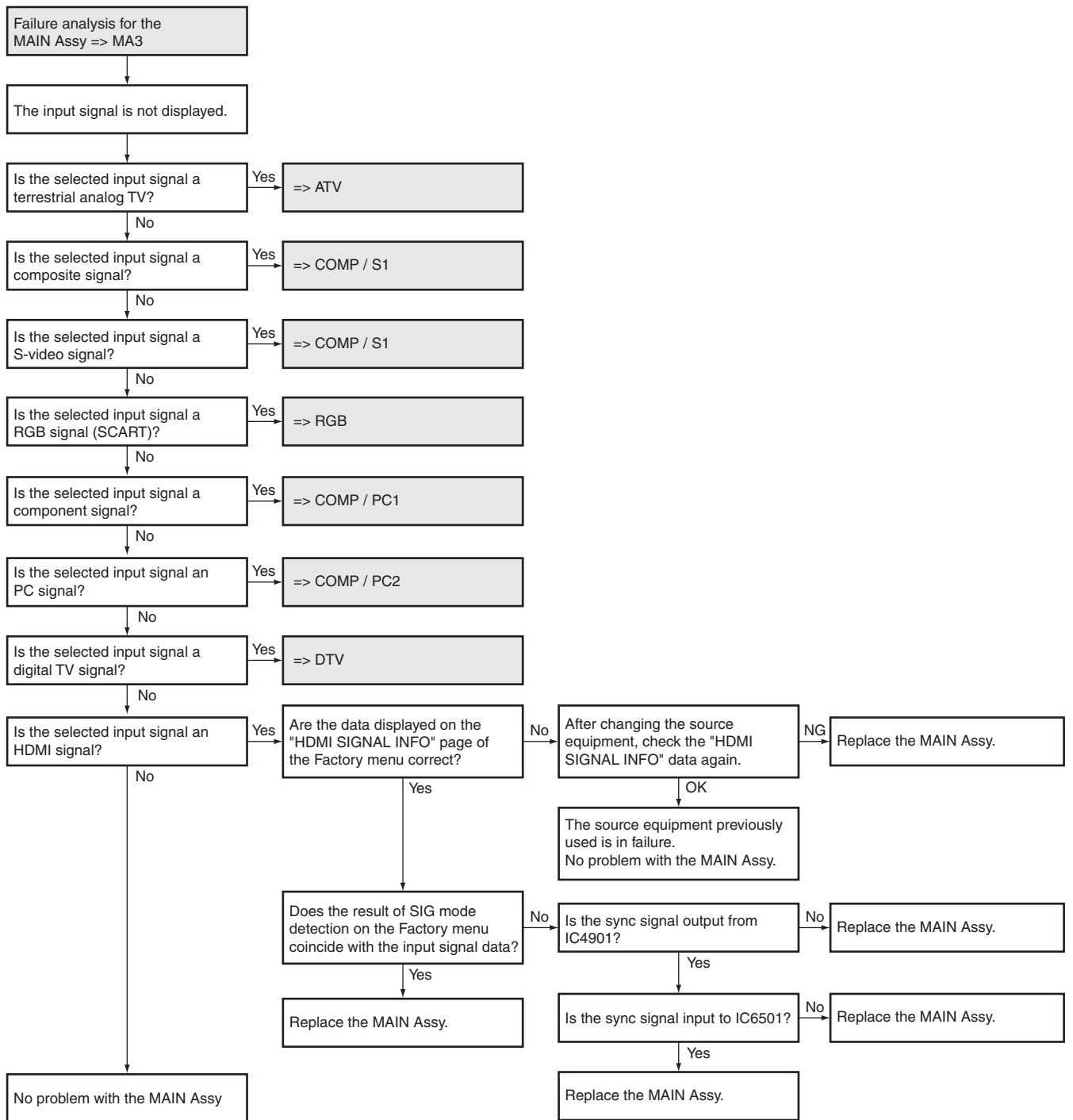


A [5] MAIN ASSY

Flowchart of Failure Analysis for The MAIN Assy

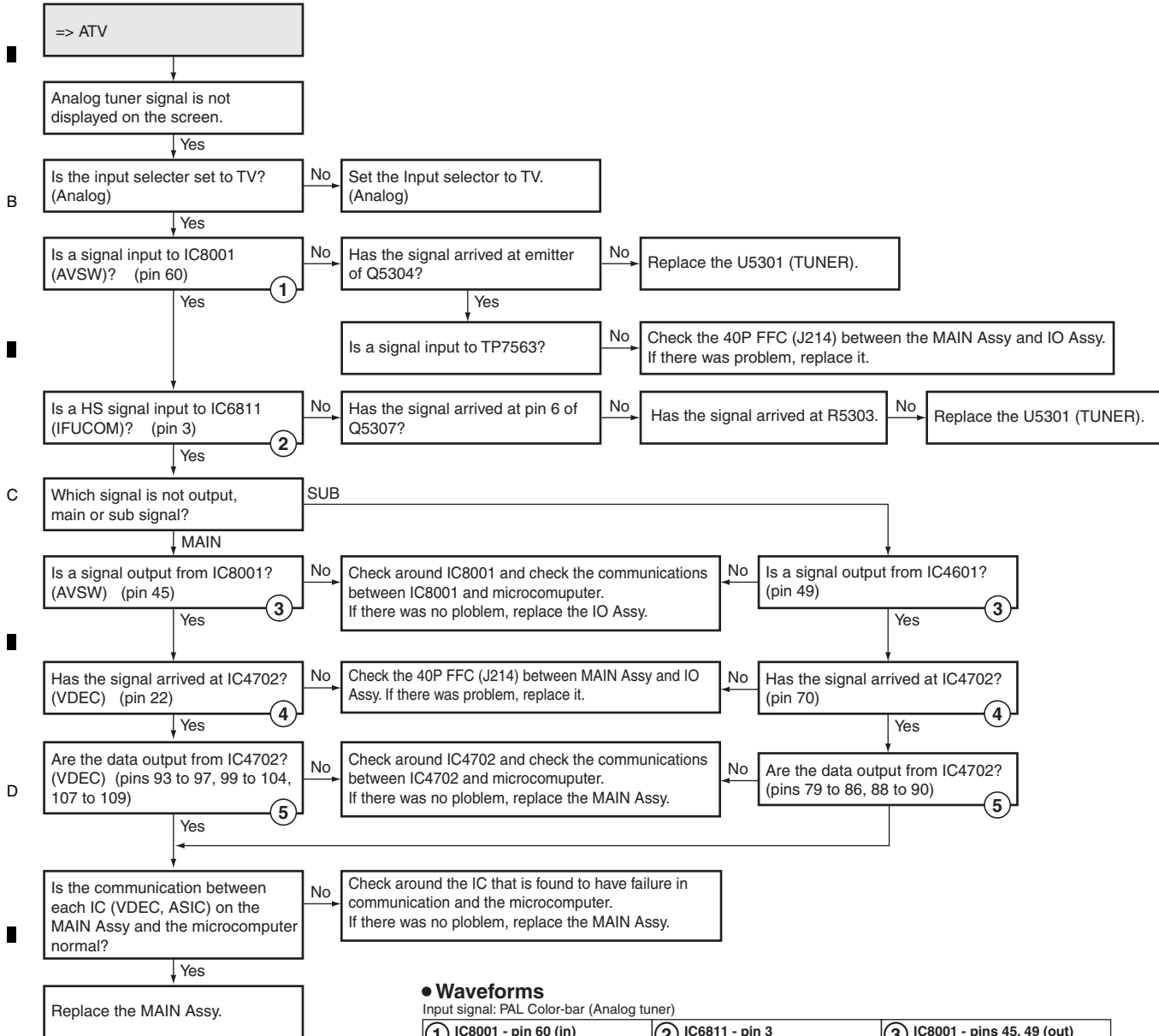


Flowchart of Failure Analysis for The Video System



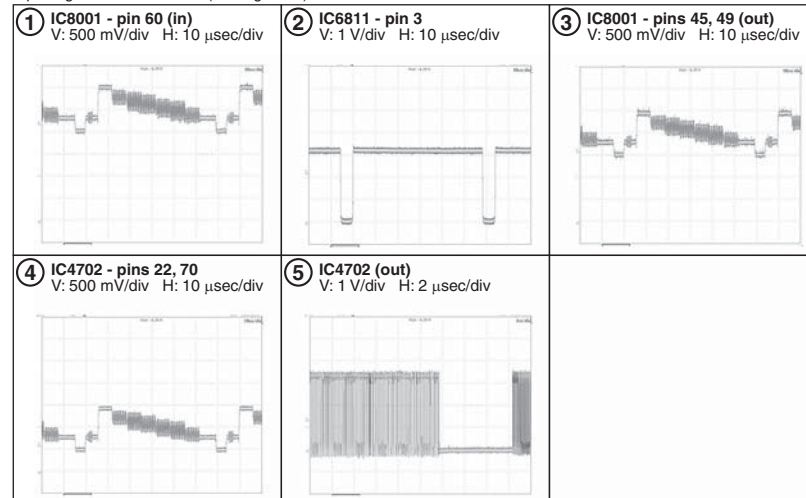
A [6] VIDEO SYSTEM

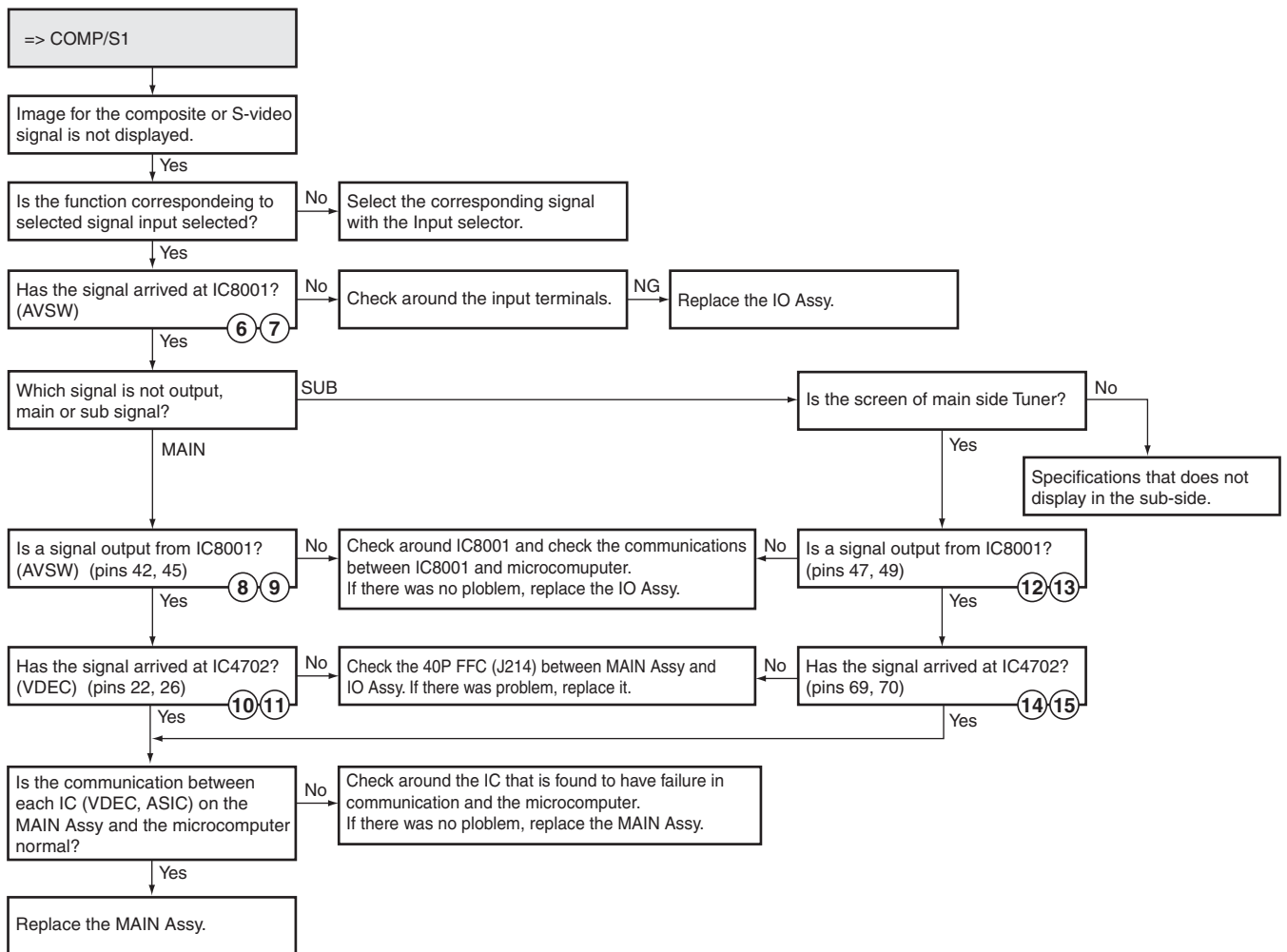
Flowchart of Failure Analysis for The Video System



● Waveforms

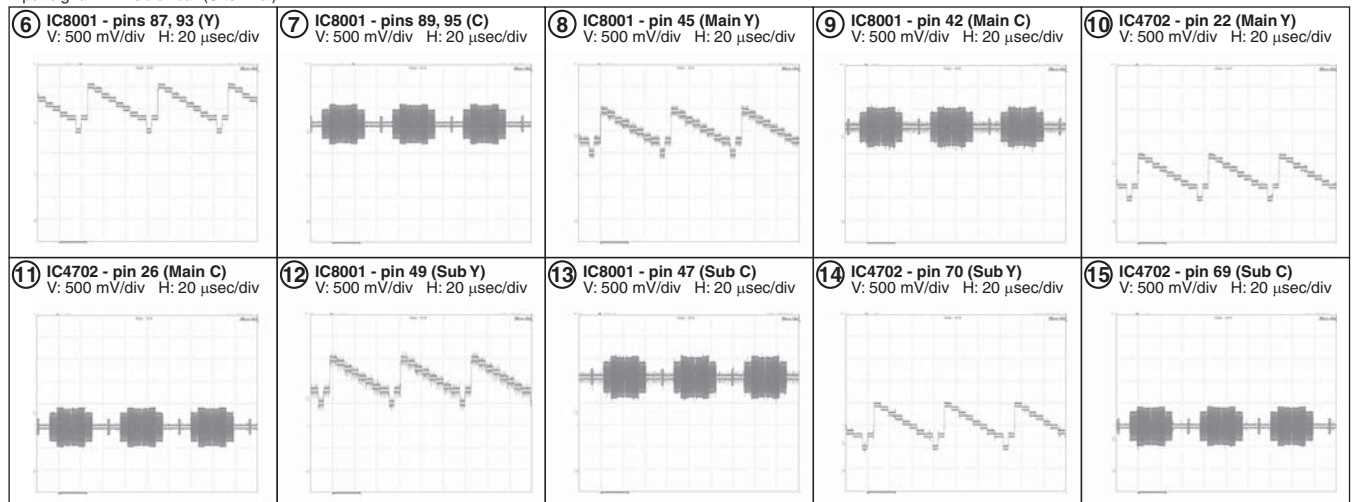
Input signal: PAL Color-bar (Analog tuner)





• Waveforms

Input signal: PAL Color-bar (S terminal)



A

=> RGB

Image for the RGB (SCART) input signal is not displayed.

Yes

Is the function corresponding to selected signal input selected?

No

Select the corresponding signal with the Input selector.

Yes

B

Has the signal arrived at IC8101 (RGBSW)?

No

Check around the input terminals.

No

Replace the IO Assy.

Yes

Is a signal output from IC8101? (pins 41, 43 and 45) ①⑥ ①⑦ ①⑧

No

Check around IC8101 and check the communications between IC8101 and microcomputer. If there was no problem, replace the IO Assy.

Yes

Has the signal arrived at IC4702? (pins 27, 28 and 65) ①⑨ ②⑦ ②⑧ ②①

No

Check the 40P FFC (J214) between MAIN Assy and IO Assy. If there was problem, replace it.

Yes

C

Which signal is not output, main or sub signal?

Sub

Is the screen of main side Tuner?

No

Specifications that does not display in the sub-side.

Main

Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?

No

Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN Assy.

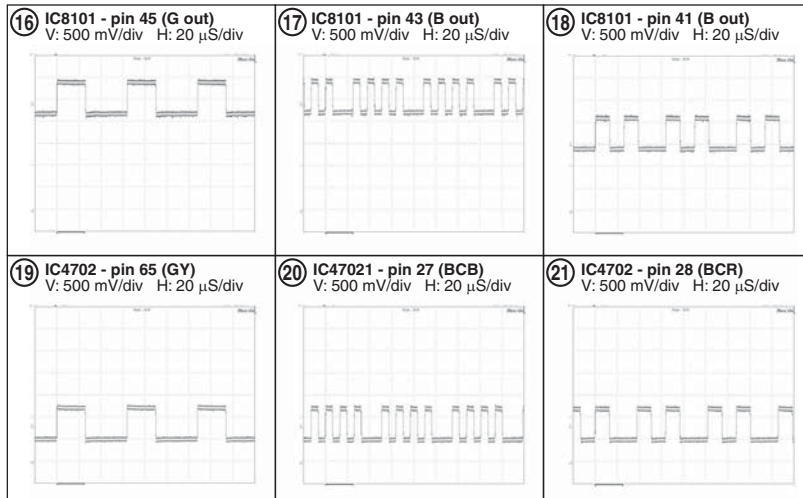
Yes

Replace the MAIN Assy.

D

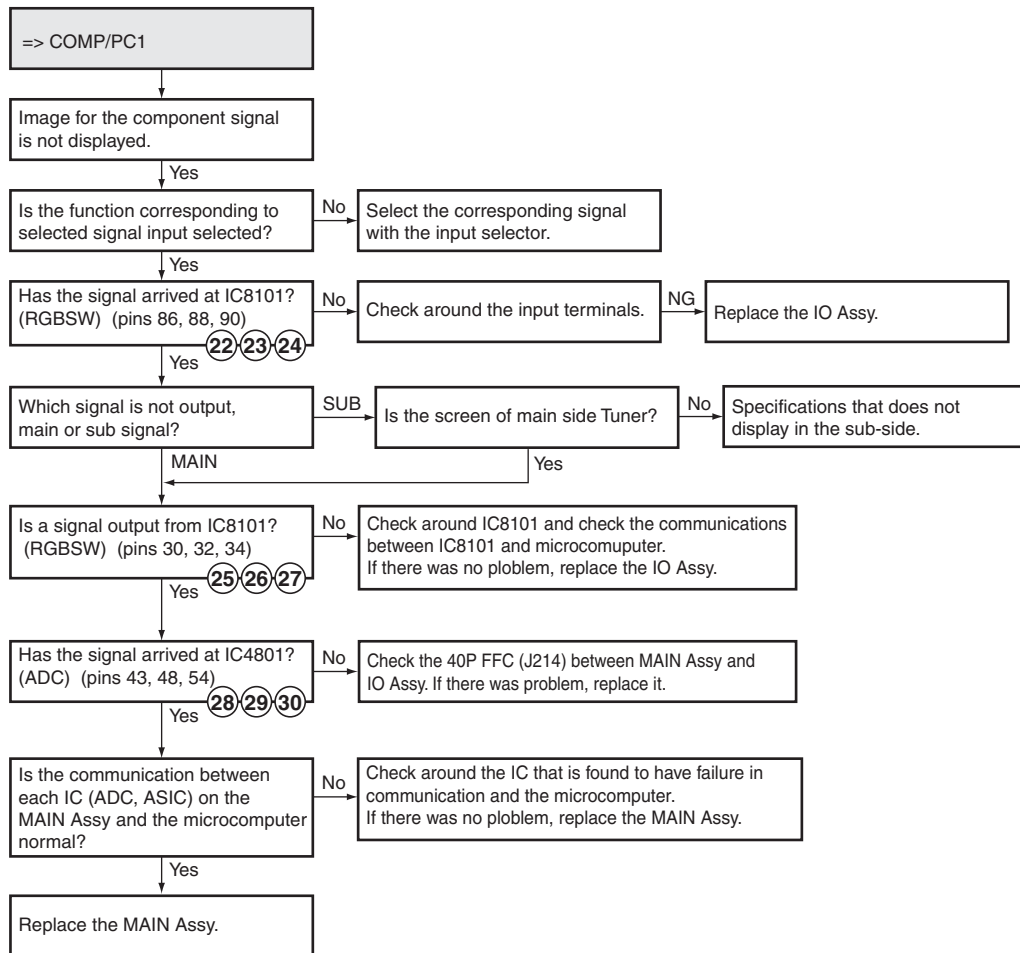
Waveforms

Input signal: PAL Color-bar (SCART RGB terminal)



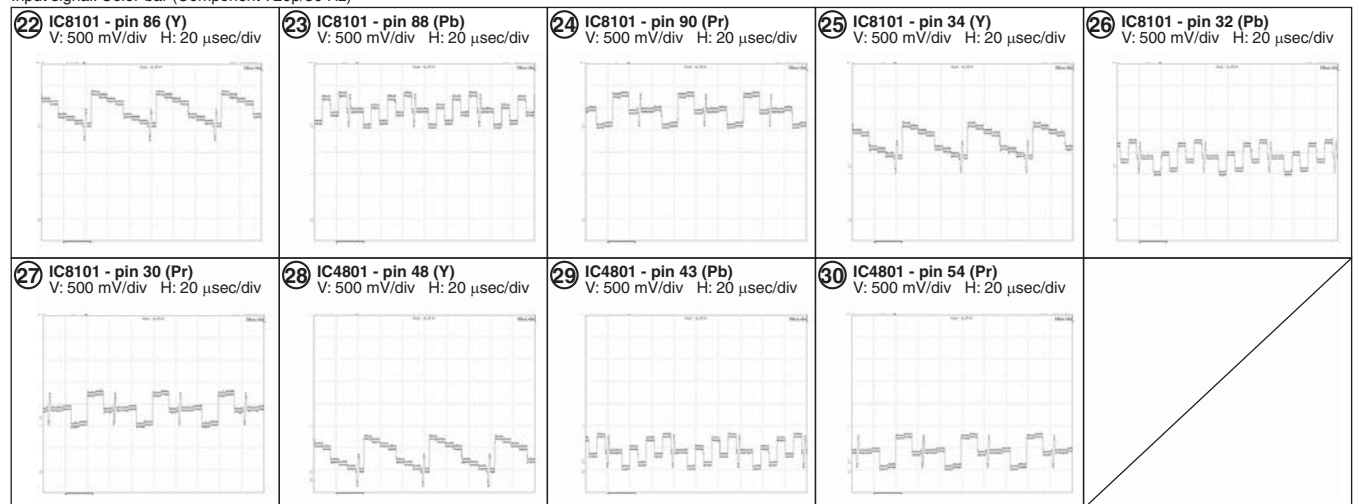
E

F



• Waveforms

Input signal: Color-bar (Component 720p/50 Hz)



A

=> COMP/PC2

Image for the PC signals is not displayed.

Yes

Is the function corresponding to selected signal input selected?

No

Select the corresponding signal with the input selector.

Yes

Has the signal arrived at IC8101?
(RGBSW) (pins 2, 4, 6, 14, 15)

No

Check the 12P FFC (J215) between IO Assy and PC Assy. If there was problem, replace it.

Yes

Which signal is not output, main or sub signal?

SUB

Is the screen of main side Tuner?

No

Specifications that does not display in the sub-side.

Yes

MAIN

Is a signal output from IC8101?
(RGBSW) (pins 30, 32, 34)

No

Check around IC8101 and check the communications between IC8101 and microcomputer. If there was no problem, replace the IO Assy.

Yes

C

Has the signal arrived at IC4801?
(ADC) (pins 43, 48, 54)

No

Check the 40P FFC (J214) between MAIN Assy and IO Assy. If there was problem, replace it.

Yes

Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer normal?

No

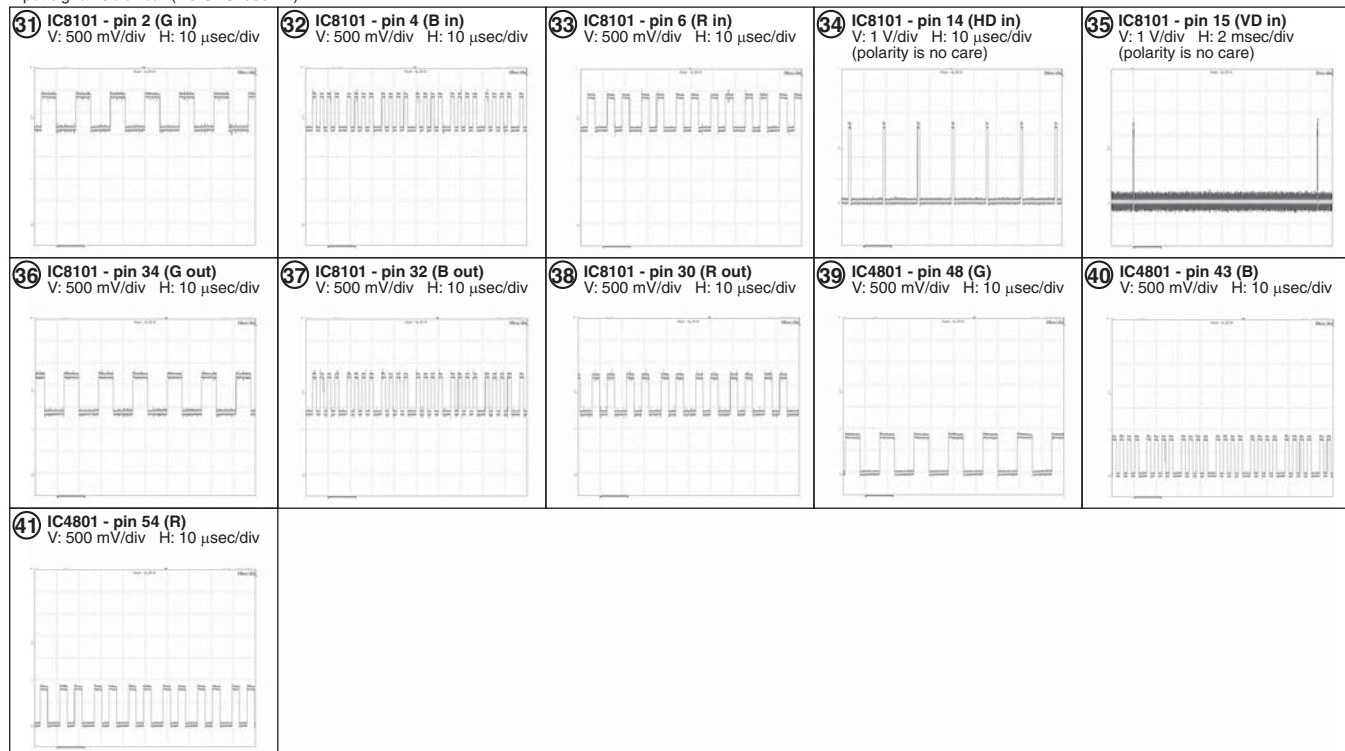
Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN Assy.

Yes

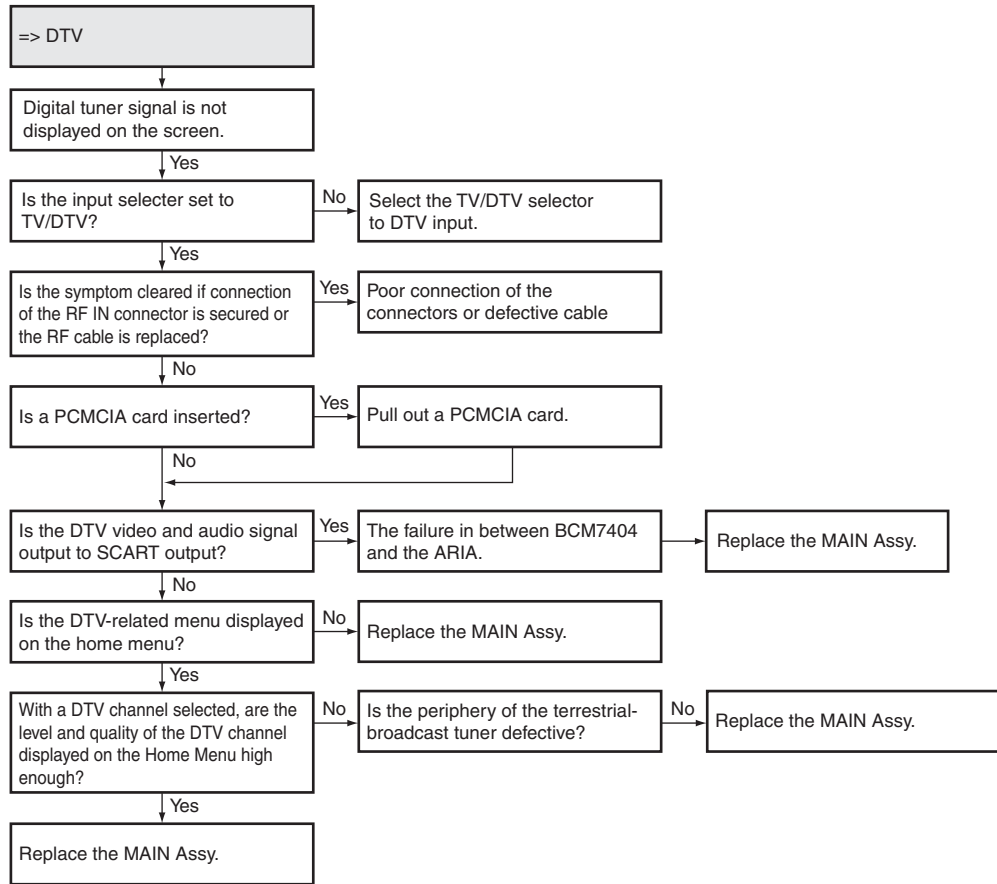
Replace the MAIN Assy.

• Waveforms

Input signal: Color-bar (PC SXGA/60 Hz)

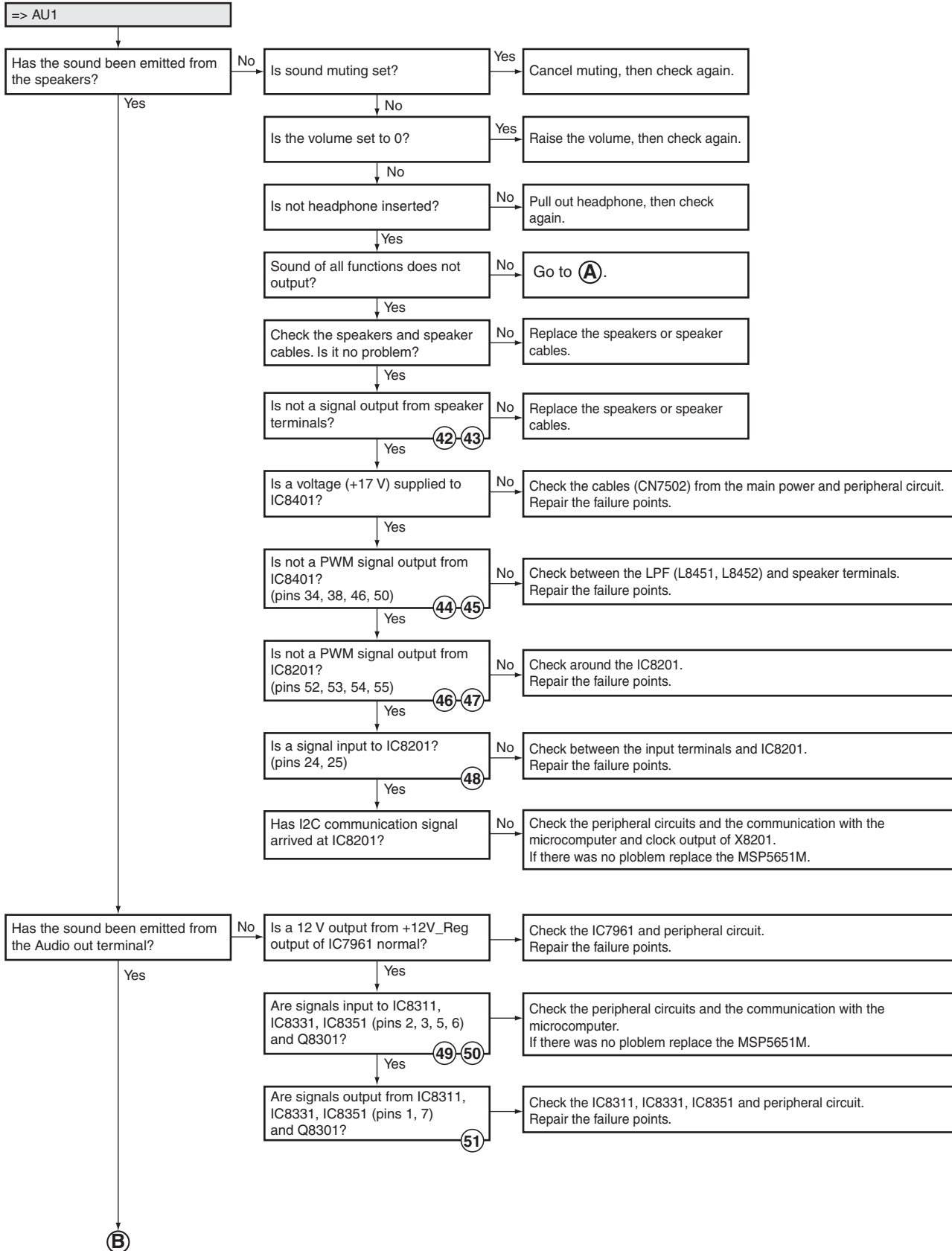


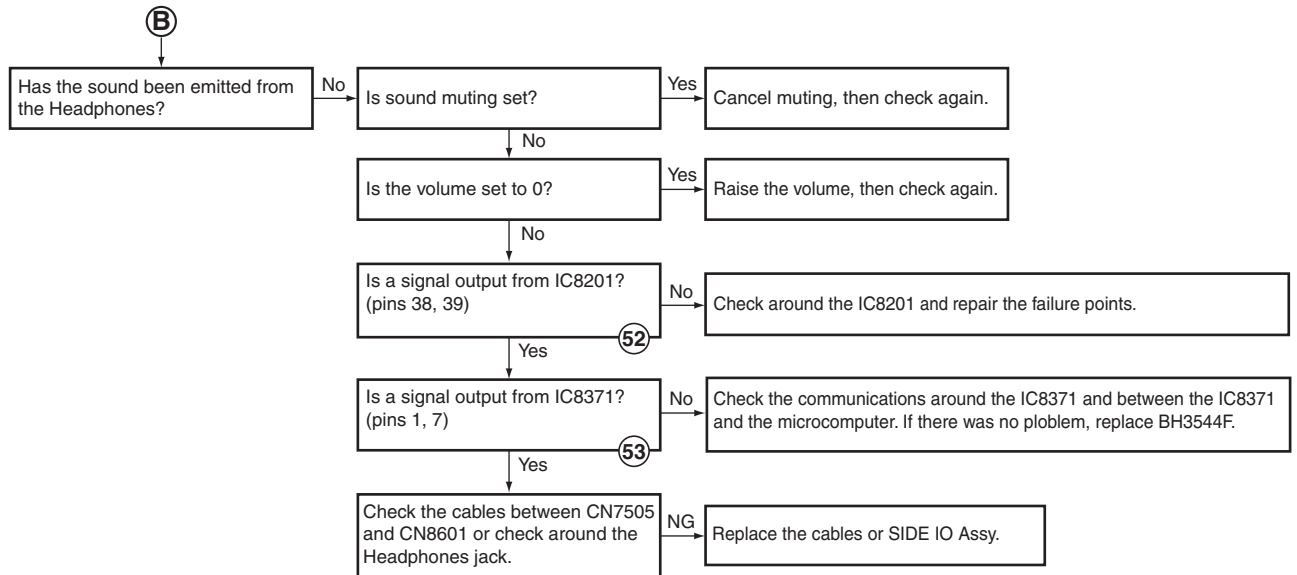
F



A [7] AUDIO SYSTEM

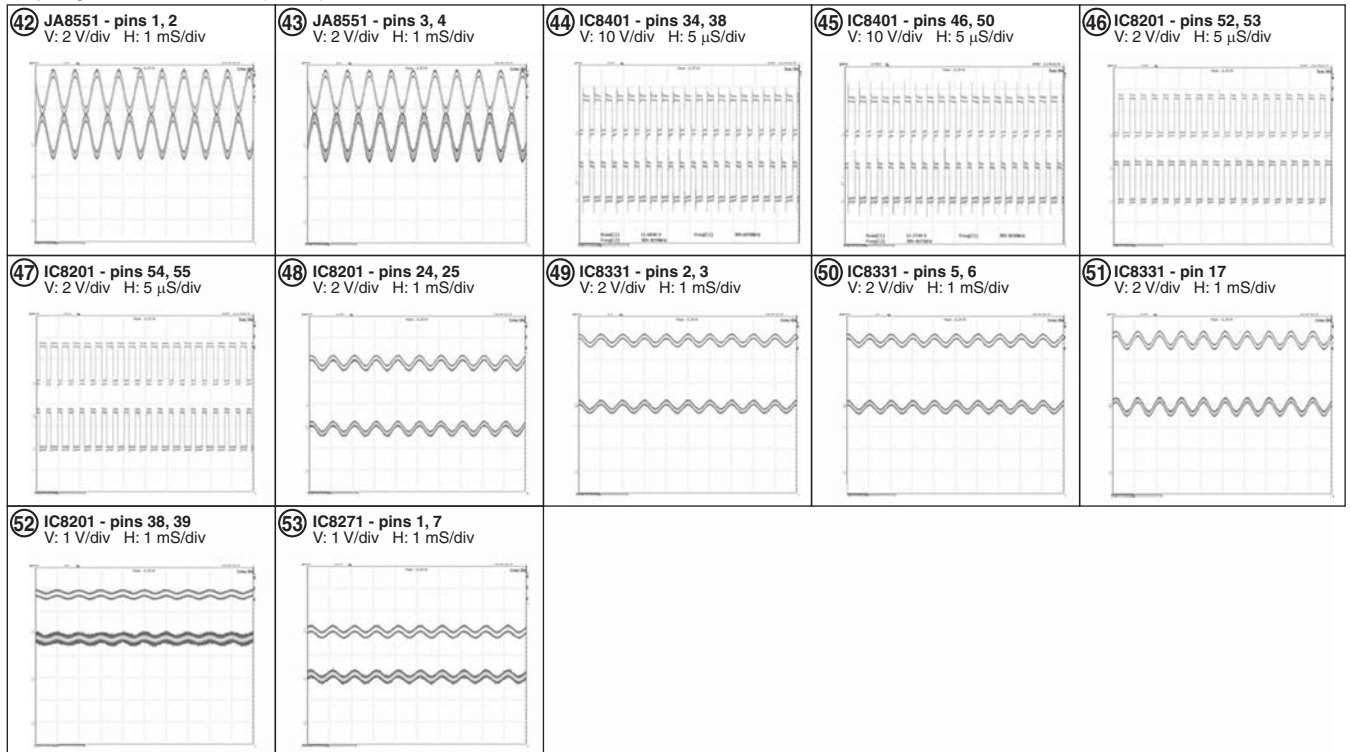
Flowchart of Failure Analysis for The Audio System





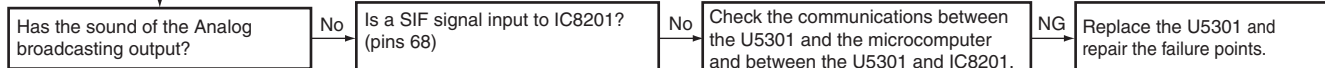
• Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

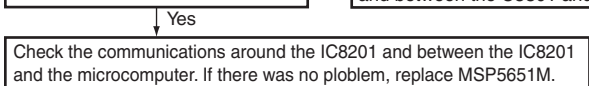


A

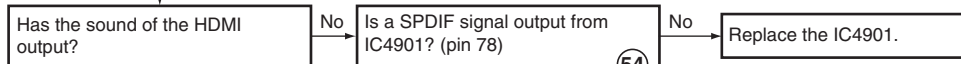
A



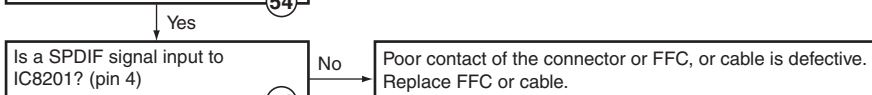
Yes



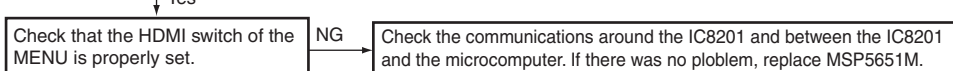
B



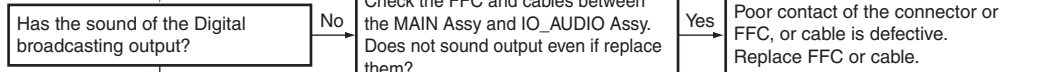
Yes



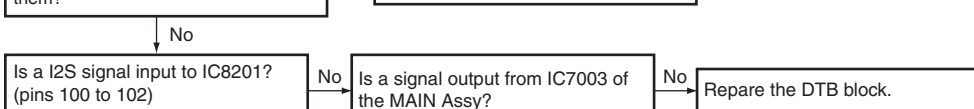
Yes



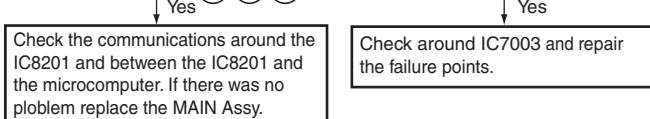
C



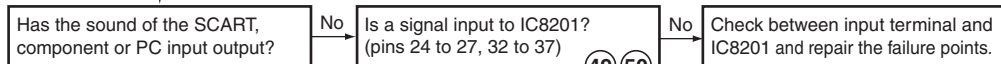
Yes



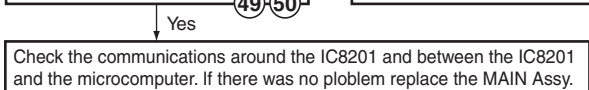
Yes



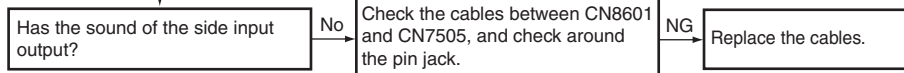
D



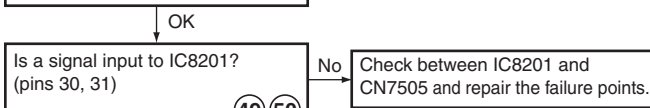
Yes



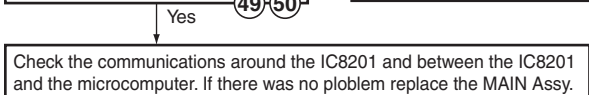
E



OK

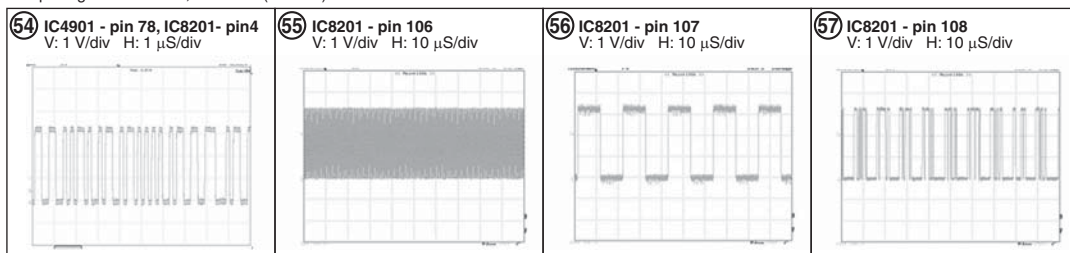


Yes



Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)



F

■

5

■

6

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7

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8

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A

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B

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C

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D

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E

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F

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5

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6

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7

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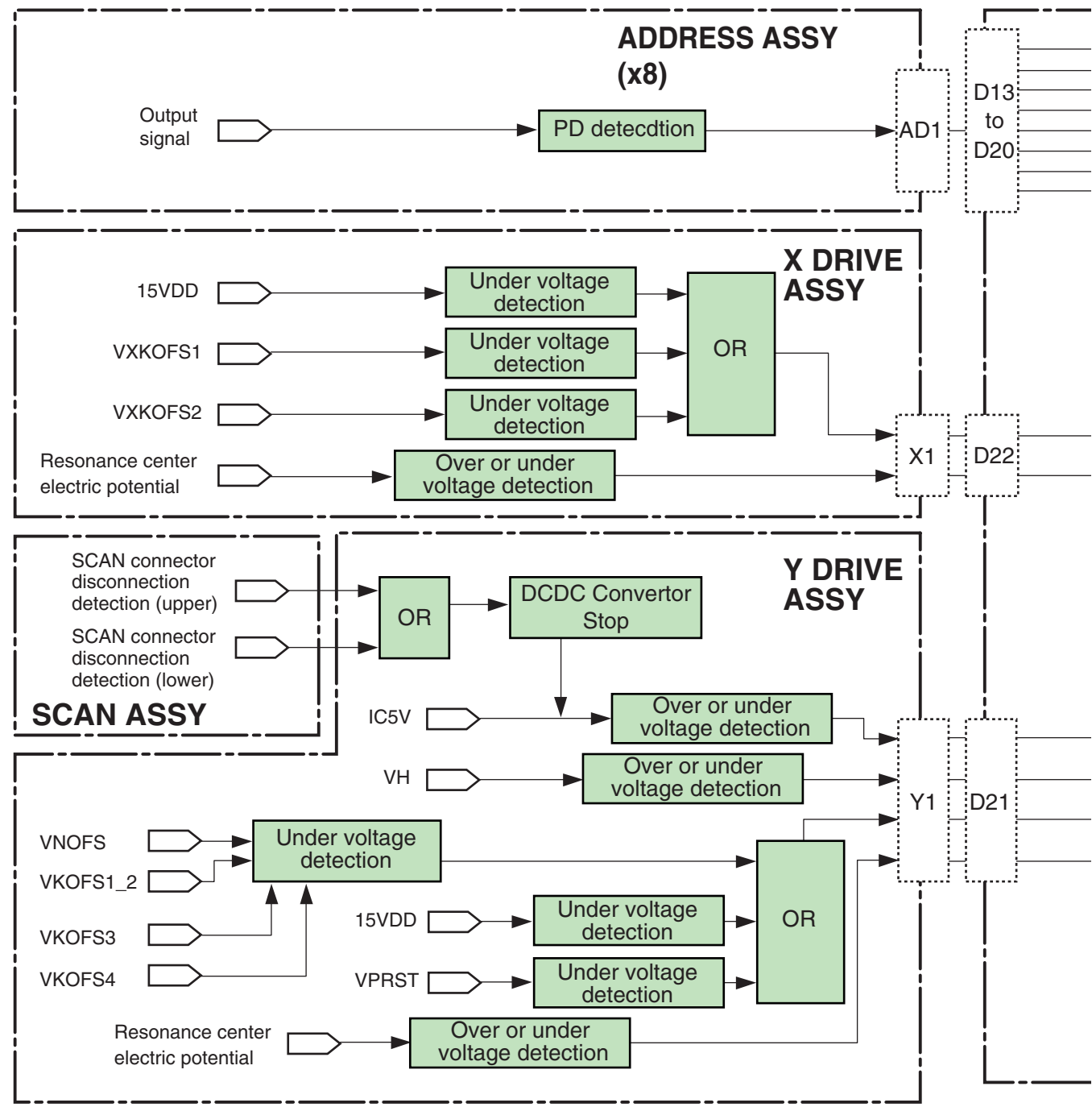
8

■

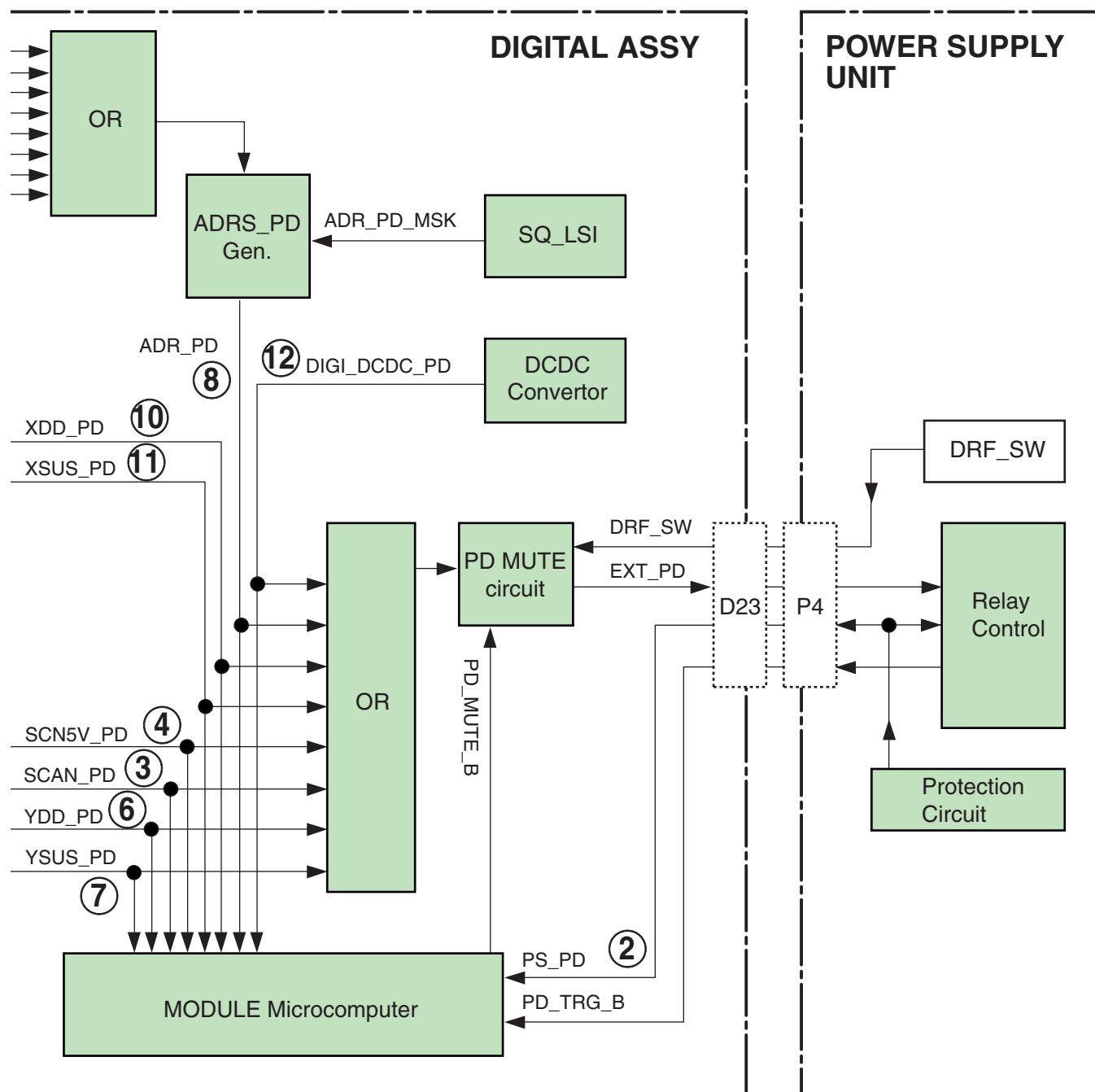
1 2 3 4

5.3 DIAGNOSIS OF PD (POWER-DOWN)

A [1] BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL



The figures ② to ⑫ indicate the number of times the Red LED flashes when power-down occurs in the corresponding route.



[2] PD (POWER-DOWN) DIAGNOSIS OF FAILURE ANALYSIS

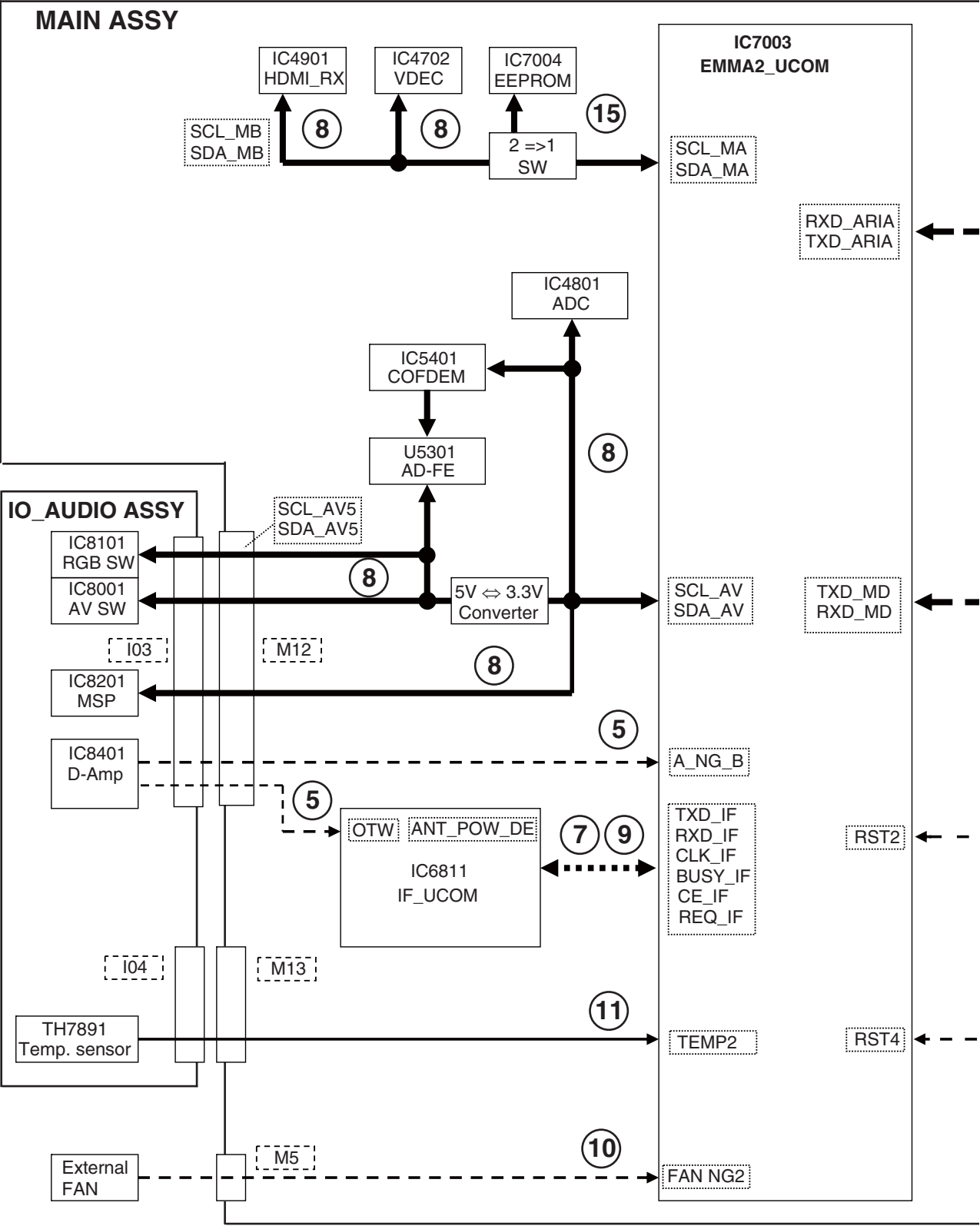
Red LED Flashing Count	Factory History Display	Defective Assy	PD Outline	Checkpoint
2	P-PWR	POWER SUPPLY Unit	Each PD in the POWER SUPPLY Unit	
			Connector disconnection	Connector [P14][P15] (60°only)
		X DRIVE Assy	VSUS under voltage protection	X SUS block
		Y DRIVE Assy	VSUS under voltage protection	Y SUS block
		ADDRESS Assy	Connector disconnection	Connector [AD1]
3	SCAN	DIGITAL Assy	Connector disconnection	Connector [D13] to [D20]
		SCAN Assy		SCAN IC
		X DRIVE Assy	VH over or under voltage protection	X SUS block
				Y SUS block
		Y DRIVE Assy		VH DC/DC
4	SCN5V			OFFSET block
			Connector disconnection	Connector [Y1][Y2]
		DIGITAL Assy	Connector disconnection	Connector [D21]
		SCAN Assy	Connector disconnection	Connector [SA1][SB1][SB2][SC1][SC2][SD1]
		Y DRIVE Assy	IC5V over or under voltage protection	SCAN IC
6	Y-DCDC	Y DRIVE Assy	VNOFS under voltage protection	Y MSK block
				NOFS block
				VNOFS DC/DC
			VYPRST under voltage protection	VPRST regulaotr
				PR-U block
			15VDD under voltage protection	15V DC/DC
				SOFT-G block
			VKOFS1,2 under voltage protection	Y MSK block
				KNOFS2 block
				VYKOFS1, 2 regulaotr
7	Y-SUS	Y DRIVE Assy	VKOFS3 under voltage protection	Y MSK block
				VYKOFS3 regulaotr
			VKOFS4 under voltage protection	Y MSK block
				KNOFS4 block
				VYKOFS4 regulaotr
			Over or under voltage protection of the center electric potential	Y resonance block
			DIGITAL Assy	SEQ_LSI does not operate
				SEQ_LSI (Sync input, output waveform)
			ADDRESS Assy	VADR under voltage protection
				Address resonance block
8	ADRS	ADDRESS Assy		TCP
			Connector disconnection	Connector [AD1][AD2]
			DIGITAL Assy	Connector [D13] to [D20]
			Y DRIVE Assy	Connector [Y2][Y5][Y6]
			X DRIVE Assy	Connector [X2][X3][X4]
			POWER SUPPLY Unit	Connector [P1][P2]
			Connector disconnection	Connector [X2]
			15VDD under voltage protection	X SUS block
				15V DC/DC
			VXKOFS1 under voltage protection	VXKOFS1 regulaotr
10	X-DCDC	X DRIVE Assy		X OFFSET block
			VXKOFS2 under voltage protection	VXKOFS2 regulaotr
				X OFFSET block
			Over or under voltage protection of the center electric potential	X resonance block
			3.3V,2.5V,1.1V	DC/DC controlo IC
			Over voltage/under voltage/overcurrent protection	DC/DC block
			POWER SUPPLY Unit	Connector [P4]
			DIGITAL Assy	Connector [D23]
			ModuleUcom can not detection	Each PD line of ModuleUcom

Possible Defective Part	Remarks
Q1218,Q1219,Q1221-Q1223,Q1226	The POWER SUPPLY Unit of 60 inches model is a structure of the two parts. VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
Q2217-Q2224	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
each SCAN IC	The abnormality of the SCAN IC
Q1218,Q1219,Q1221-Q1223,Q1226	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
Q2217-Q2219,Q2221-Q2223	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
IC2601,IC2603,IC2604	
Q2401,Q2402	KNOFS1 and KNOFS3 are short-circuited.
	[SB2][SC1][SC2][SD1] are 60 inches model only.
each SCAN IC	
Q2764,D2768,R2764	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2424,Q2429	NOFS is short-circuited.
D2606,Q2709-Q2711	
Q2604,Q2605,IC2602	
Q2418	PR-U is short-circuited.
Q2662,R2669,L2301,R2335	
Q2427	SOFT-G is short-circuited.
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2430	KNOFS2 is short-circuited.
Q2702,Q2705,R2714	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2703,Q2706,R2715	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2432	KNOFS4 is short-circuited.
Q2704,Q2707,R2717	
Q2106-Q2109,Q2111,Q2113,D2104-D2107	
IC3301,IC3302	The history of SD1 remains
Q1711,Q1721,Q1731,Q1741,Q1911,Q1921,Q1931,D1711,D1721,D1731,D1741,D1911,D1921,D1931	
TCP (IC1651,IC1661,IC1671,IC1681,IC1851,IC1861,IC1871)	When the TCP is damaged, replace the panel. Ref No. of L Assy (6 pieces) and S Assy (2 pieces) are common use.
L1201,R1217	
Q1402	
Q1405,Q1406	
Q1302,Q1304	
Q1403,Q1404	
Q1301,Q1303	
Q1108,Q1112,Q1116,Q1119	
IC3801	
Q3841,Q3861,Q3881,L3841,L3861,L3881	
R3820,R3848,R3868,R3888	
	EXT_PD line : Open
	EXT_PD line : Open
	It becomes "UNKNOWN" except above-mentioned PD detection condition.

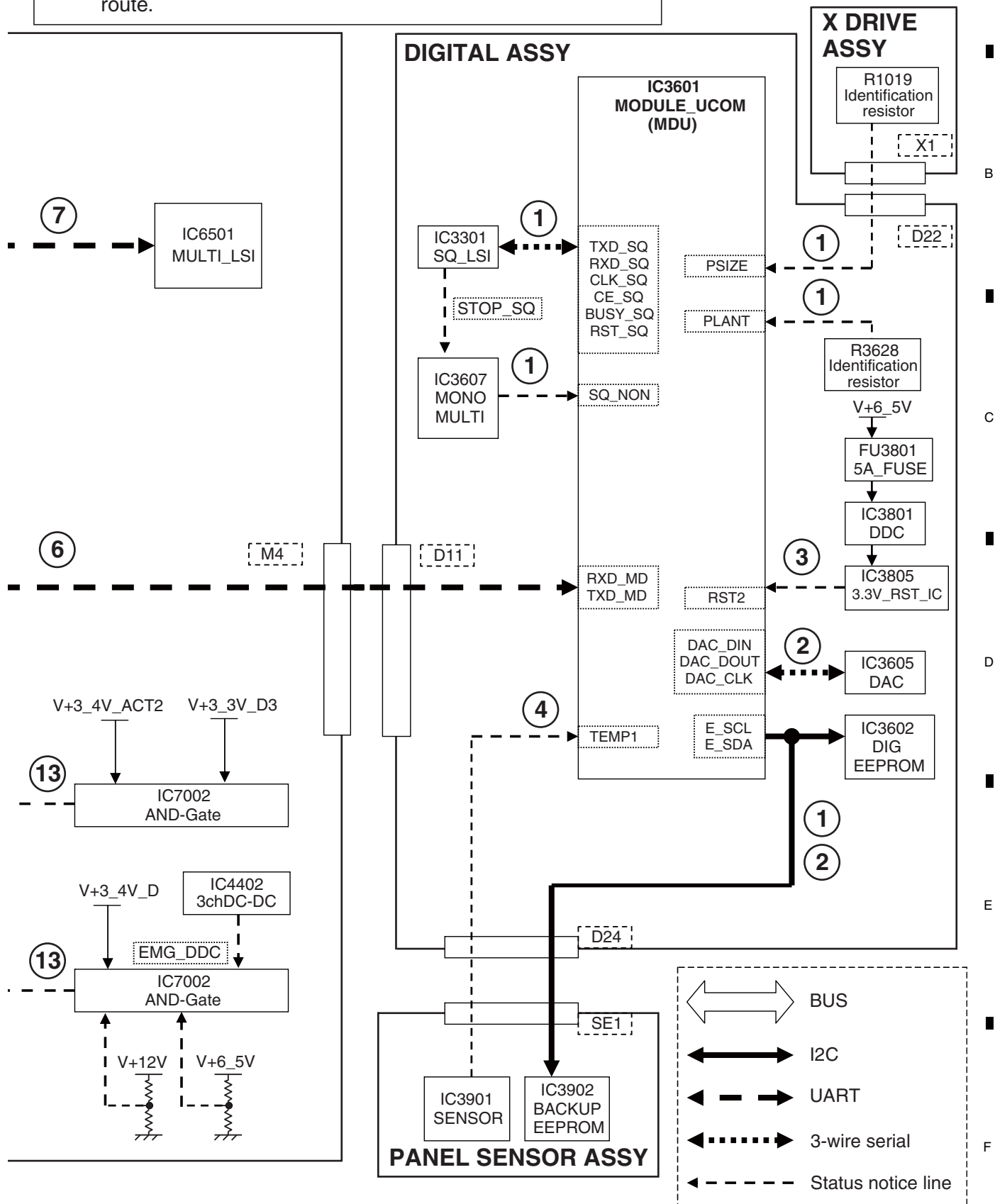
1 2 3 4

5.4 DIAGNOSIS OF SD (SHUTDOWN)

A [1] BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL



Note : The figures ① to ⑮ indicate the number of times the Blue LED flashes when shut-down occurs in the corresponding route.



[2] SD (SHUTDOWN) DIAGNOSIS

Frequency of LED Flashing (*1)		Major Type	Detailed Type	Log Indication in Factory Mode		
				MAIN	SUB	
Blue 1	Orange 1	Abnormality in the Sequence LSI	Communication error	SQ-LSI	RTRY	
	Orange 2		Drive stop		SQNO	
	Orange 3		Busy		BUSY	
	Orange 4		Version mismatching (hardware, software)		VER-HS	
	Orange 5		Version mismatching (hardware, backup memory)		VER-HM	
	Orange 6		Version mismatching (hardware, DIGITAL memory)		VER-HI	
Blue 2	Orange 1	Failure in MDU device communication	Digital EEPROM	MD-DEV	EEPROM	
	Orange 2		Backup EEPROM		BACKUP	
	Orange 3		DAC IC		DAC	
Blue 3	—	Abnormality in RST2 power decrease	—	RST2	—	
Blue 4	Orange 1	Abnormality in panel temperature	Abnormality in high temperature	TMP-NG	TMP-H	
	Orange 2		Abnormality in low temperature		TMP-L	
Blue 5	—	Short-circuiting of the speakers D-AMP temperature abnormality	—	AUDIO	—	
	—					
	—					
Blue 6	—	Failure in communication with the module microcomputer	—	MODULE	—	
Blue 7	Orange 1	Failure in IF microcomputer	IF microcomputer	MA-3L	IF	
	Orange 2	3-wire serial communication	MULTI		MULTI	
Blue 8	Orange 1	Failure in IIC communication with the main microcomputer	Tuner 1	MA-IIC	FE1	
	Orange 2		MSP/MAP		MSPMAP	
	Orange 3		AV switch		AV-SW	
	Orange 4		RGB switch		RGB-SW	
	Orange 5		Main VDEC		VDEC	
	Orange 6		VDEC SDRAM		SDRAM	
	Orange 7		AD/PLL		ADC	
	Orange 8		HDMI		HDMI	
	Orange 13		COFDEM		DEMOD	
Blue 9	—	Failure in communication with the main microcomputer	—	MAIN	—	
Blue 10	Orange 2	Abnormality in FAN	FAN2	FAN	FAN2	
Blue 11	—	High temperature of the unit	—	TEMP2	—	
Blue 12	Orange 1	Digital Tuner	DTV startup error	DTUNER	PS/RST	
Blue 13	Orange 1	Failure in the power supply	DC-DC Converter power decrease	RST-MA	M-DCDC	
	Orange 2		POWER SUPPLY		RELAY	
Blue 15	—	Main EEPROM	Main EEPROM communication error	MA-EEP	—	
—	—	Digital Tuner	DTV Antenna	DTUNER	D-ANT	

*1: If the DISPLAY key is pressed during shutdown (the blue LED is flashing), flashing of the orange LED, which indicates the subcategory, can be confirmed. The blue LED remains flashing. Pressing the DISPLAY key again will make the orange LED go dark.

Checkpoint	Possible Defective Part	Remarks
Communication line between MDU and SQ_LSI	IC3601/IC3301	SQ_IC communication not established. IC3301 may not have properly started up.
Drive detectig signal of MDU (SQ_NON)	CN3201/IC3601/ IC3301/IC3607	A shutdown occurs if the drive waveform periodically does not output. (When SQ_NON of MDU input is High, a shutdown is generated.)
Communication line between MDU and SQ_LSI (BUSY_SQ)	IC3601/IC3301	If BUSY_SQ remains high, a shutdown is generated.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connection between [X1] and [D22].	IC3601/IC3301	When the identification resistor of PSIZE/PLANT and software version of SEQ are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22], and [SE1] and [D24]. Communication line between MDU and BACKUP EEPROM	IC3601/ SENSOR Assy(IC3902)	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the SENSOR Assy are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22]. Communication line between MDU and DIG EEPROM	IC3601/IC3602	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the DIGITAL Assy are incoherent, a shutdown occurs.
Communication line between MDU and DIG EEPROM	IC3601/IC3602	
Communication line between MDU and BACKUP EEPROM	IC3601/SENSOR Assy(IC3902)	
Communication line between MDU and DAC	IC3601/IC3605	
3.3 V output (TP3881) of DDC	IC3801/IC3805	If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.
V+6.5V of POWER SUPPLY Unit (Check [D25][P4]) FU3801 has melted.	POWER SUPPLY Unit, FU3801	Check if V + 6.5 V is started. Also check if the FU3801 on the DIGITAL Assy has been melted.
Installation environment	SENSOR Assy (IC3901)	If TEMP1 that is read by the module microcomputer is 85 °C or higher, a shutdown will be generated.
Installation environment Check the connection between SE1 and D24.	SENSOR Assy (IC3901)	A shutdown occurs if the reading of TEMP1 detected by the module micro-computer is -20 °C or less. Also check the connection between SE1 and D24.
Speaker terminals	JA8551	Check if any speaker cable is in contact with the chassis.
D_AMP	IC8401	Check if the AMP output is short-circuited. Check the temperature that is 125 °C or less.
Periphery of the cable between IO3 and M12, and IO4 and M13	CN7503,CN7504, CN4003,CN4004	Check if cables are firmly connected.
Communication line between MAIN and MOD	IC7003	Check the communication lines (TXD_MOD/RXD_MOD).
Periphery of the cable between D11 and M12	CN4101,CN4105	Check if cables are firmly connected.
Communication line between IF and MAIN	IC7003,IC6501	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Communication line between MULTI and MAIN	IC7003,IC6501	Check the communication lines (TXD_ARIA/RXD_ARIA).
IIC communication line between Tuner and MAIN	U5301,IC7003	Check the communication lines (SCL_TU/SDA_TU or SCL_AV/SDA_AV).
IIC communication line between MSP/MAP and MAIN	IC8201,IC7003	Check the communication lines (SCL_AV/SDA_AV).
IIC communication line between AV-SW and MAIN	IC8001,IC7003	Check the communication lines (SCL_AV5/SDA_AV5).
IIC communication line between RGB_SW and MAIN	IC8101,IC7003	Check the communication lines (SCL_AV5/SDA_AV5).
IIC communication line between M_VDEC and MAIN	IC4702,IC7003	Check the communication lines (SCL_MB/SDA_MB).
IIC communication line between VDEC and SDRAM	IC4702,IC4802	Check the communication lines (SDRAM). Defective SDRAM
IIC communication line between ADC and MAIN	IC4801,IC7003	Check the communication lines (SCL_AV/SDA_AV).
IIC communication line between HDML_RX and MAIN	IC4901,IC7003	Check the communication lines (SCL_MB/SDA_MB).
IIC communication line between COFDEM and MAIN	IC5401,IC7003	Check the communication lines (SCL_AV/SDA_AV).
Communication line between IF and MAIN	IC6811,IC7003	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Dirt attached to the fan motor		Check the fan. (SD10 does not detect it at the temperature that fans do not turn.)
Periphery of the FAN CONNECT Assy		FAN NG
Periphery of the cable between FA1 and FA3		Check if cables are firmly connected.
Periphery of the fan control regulator	IC4303	Check that the voltage outputs it.
Ambient temperature		TEMP2 A shutdown occurs because of high temperature.
Temperature sensor or its periphery	TH7891	TEMP2
Periphery of the cable between IO4 and M13	CN7504,CN4004	Check if cables are firmly connected.
Startup of BCM7404	IC6001	Check the startup of the BCM7404 and the communication line with MAIN.
RST2 V+3_4V_ACT2, V+3_3V_D3	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V, V+3_4V_D	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V, V+3_4V_D	POWER SUPPLY Unit	Check if each voltages are started.
Check the cables M2 and M3.	CN4207, CN4210	Check if cables are firmly connected.
IIC communication line between EEPROM and MAIN	IC7004, IC7003	Check the communication lines (SCL_EP/SDA_EP)
Antenna supply power	IC4304	Check the IC4304 and periphery device.

5.5 NON-FAILURE INFORMATION

[1] INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

Symptom	Cause, item to check, information
HDMI: Symptoms concerning the input format and settings	
The picture color for an INPUT 1 or 3 or 4 signal is not correct.	The color setting for INPUT 1 or 3 or 4 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.
The video signal to INPUT 1 or 3 or 4 is not displayed, and a message is displayed.	A unsupported video signal is input.
The audio signal input to the INPUT 1 or 3 is not output. No HDMI signal is input.	The audio setting for INPUT 1 or 3 is any setting, and a video signal is not input. If the audio setting is any setting, to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output.
No sound of signals to INPUT 1 or 3 or 4 is output.	The setting on the side of the HDMI output equipment is wrong. Example: Dolby Digital
The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly.	Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.)
SCART video output	
The video output signal from the SCART connector is deteriorated. Or when the video output signal from the SCART connector is recorded, its playback picture is deteriorated.	The video signal output from the SCART connector is Macrovision protected.
The video signal is not output when the component signal is input to INPUT 2.	The video signal is not output from the SCART connector when the component signal is selected.
The video signal is not output when the video signal is input to INPUT 1 or 3 or 4.	The video signal is not output from the SCART connector when the HDMI signal is selected.
AUDIO OUT and SCART	
The image displayed on the PDP is not synchronized with the sound from the SCART.	The audio signal from the SCART connector is synchronized with the video output signal from the SCART connector. And the audio signal from the AUDIO OUT is synchronized with the video signal that is currently displayed.
DIGITAL OUT	
Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible.	The video signal output from the DIGITAL connector is copy-protected.
The digital audio output signal from the DIGITAL connector is not synchronized with that from the SCART video output.	The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the SCART video output.
Miscellaneous	
The no-signal off function is not activated.	The no-signal off and no-operation off functions are effective only if video (composite, S video, component, HDMI [excluding PC]) input or TV input is selected.
The no-operation off function is not activated.	
Power management does not function.	Power Management is effective only while an analog PC signal is being input. It is not effective with HDMI-PC signal input.
The AUTO SETUP function is not activated.	The Auto Setup function is effective only while an analog PC signal is being input. This function does not work if an analog PC signal is not input, even if the INPUT PC is selected.
Control via the SR connector is not possible.	Wrong connection of the cable to the PC INPUT (AUDIO) connector is suspected.
The audio signal from the PC is not output.	Wrong connection of the cable to the SR connector is suspected.
The picture-quality setting (AV Selection) is not stored.	The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.
The picture size changes arbitrary.	The Auto Size setting is set to ON.
The display position of the screen changes slightly while the screen is on.	The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended.
The video signal to the S video connector is not displayed.	As the signal input to the connector that has been selected on the INPUT SELECT submenu of the Home menu is selected (this does not apply to the connectors located on the side of the unit), check the menu setting. If the output signal is not available even if the input signal is properly selected, input a signal to other input functions, check the connecting cables, or check the settings for the connected equipment.
The video signal to the composite video connector is not displayed.	

SUPPLEMENT: On the video setting for HDMI

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.

(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.

In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVI, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

[2] FUNCTION OF DECREASING THE BRIGHTNESS LEVEL

If the panel temperature becomes high or a video signal that requires activation of panel protection is input, the unit will protect the panel by decreasing the brightness level.

* While a mask is being displayed, the panel protection function will not be activated.

Protection Function Name	Purpose	Conditions	Protection Function	Remarks
High-temperature protection function 1	For protection of parts (DCF)	Panel temperature (TEMP1) reaches 65 °C.	Offsetting the ABL adjustment value	
High-temperature protection function 2	For reducing heating in the unit	Panel temperature (TEMP1) reaches 80 °C.	Limiting for the maximum number of SUS pulses	
Panel protection function 1	For preventing burn-in	A still image is displayed for 3 minutes or more.	Limiting for the maximum number of SUS pulses	The picture will be considered to be still if only the mouse cursor is moved.
Panel protection function 2	For protection of SCAN ICs	An image with which a particular load is applied to one SCAN IC is displayed. (See Fig. 2)	Limiting for the maximum number of SUS pulses	
Panel protection function 3	For protection against panel cracking	An image with which the heat of part in the panel is increased is displayed. (See Fig. 3)	Limiting for the maximum number of SUS pulses	

■ Limiting for the maximum number of SUS pulses

By gradually decreasing the limit for the maximum number of SUS pulses, the temperature of the panel will be lowered.

- The limit for the maximum number of SUS pulses will be decreased by 8 per 5 seconds.
- The lower limit for the maximum number of SUS pulses is about 700.
- The maximum number of SUS pulses will begin to increase gradually if the conditions that led to activation of the protection function return to normal.

■ ABL adjustment value offset

By gradually offsetting the ABL adjustment value, the temperature of the panel will be lowered. The number of SUS pulses, which is determined based on the input APL (average picture level), will be decreased.

- The ABL adjustment value will be offset by one step per 30 seconds.
- The ABL adjustment value will be gradually restored if conditions that led to activation of the protection function return to normal.

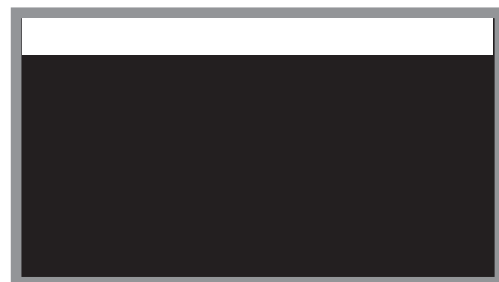


Fig. 2: Detection example: SCAN IC protection

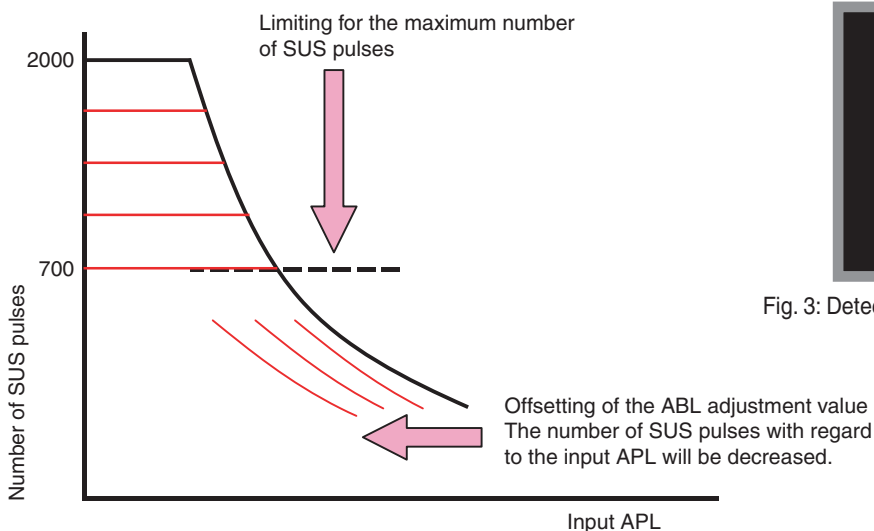


Fig. 1: Relationship between input APL and number of SUS pulses



Fig. 3: Detection example: Protection against panel cracking

5.6 OUTLINE OF THE OPERATION

[1] PANEL DRIVE-POWER ON/OFF FUNCTION

Function:

It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (Vsus, VAddress) in order to avoid a power down (PD).

Application:

1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the panel drive-power supply or with the other system power supply.

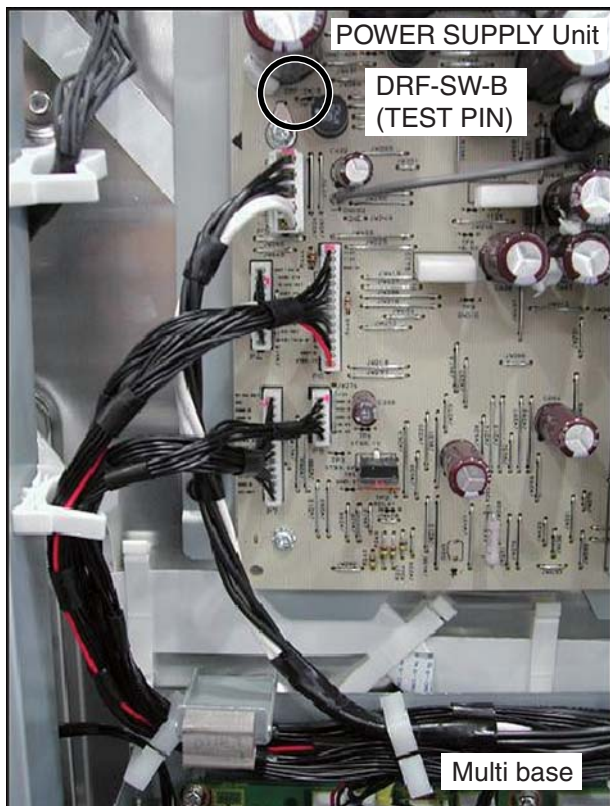
Method:

1. Short-circuit between the specified location of the POWER SUPPLY Unit and GND (Multi base section recommended), using a jumper with alligator clips (refer to the photos below).
2. Execute [DRV S00] by RS-232C command. ([DRV S01] for release)

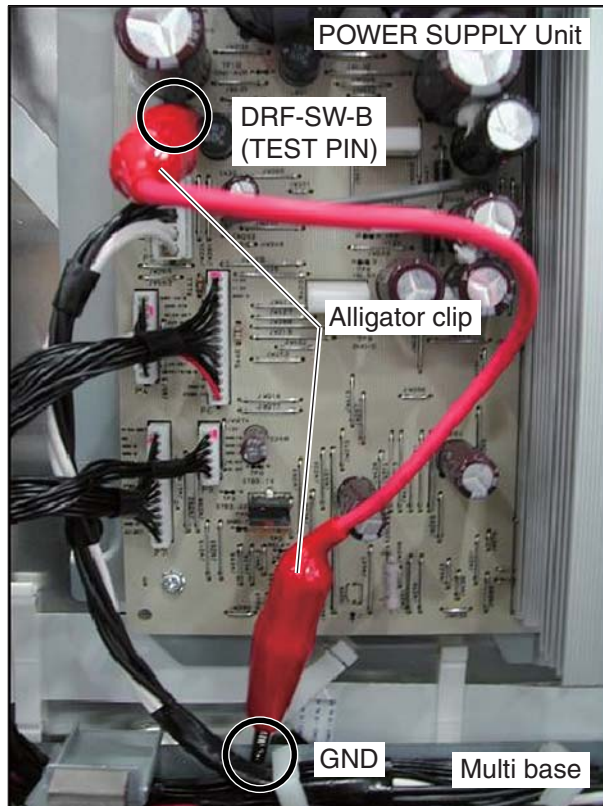
Supplemental explanation:

- When the panel drive-power is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the panel drive-power, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS-232C command control, [DRV S01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- Command [DRV S00/S01] is effective even during standby.
- Setting with RS-232C commands or the remote control unit is enabled during Standby mode. However, if the unit is left unoperated for about 10 seconds in Standby mode after setting with RS-232C commands or the remote control unit is completed, the setting will become void.
- When the main power switch is set to OFF, no command is accepted.
- Setting with RS-232C commands or the remote control unit will become void if the AC power cord is unplugged, the main power switch is set to OFF, or the unit is left unoperated for about 10 seconds in Standby mode.

When the panel drive-power is ON



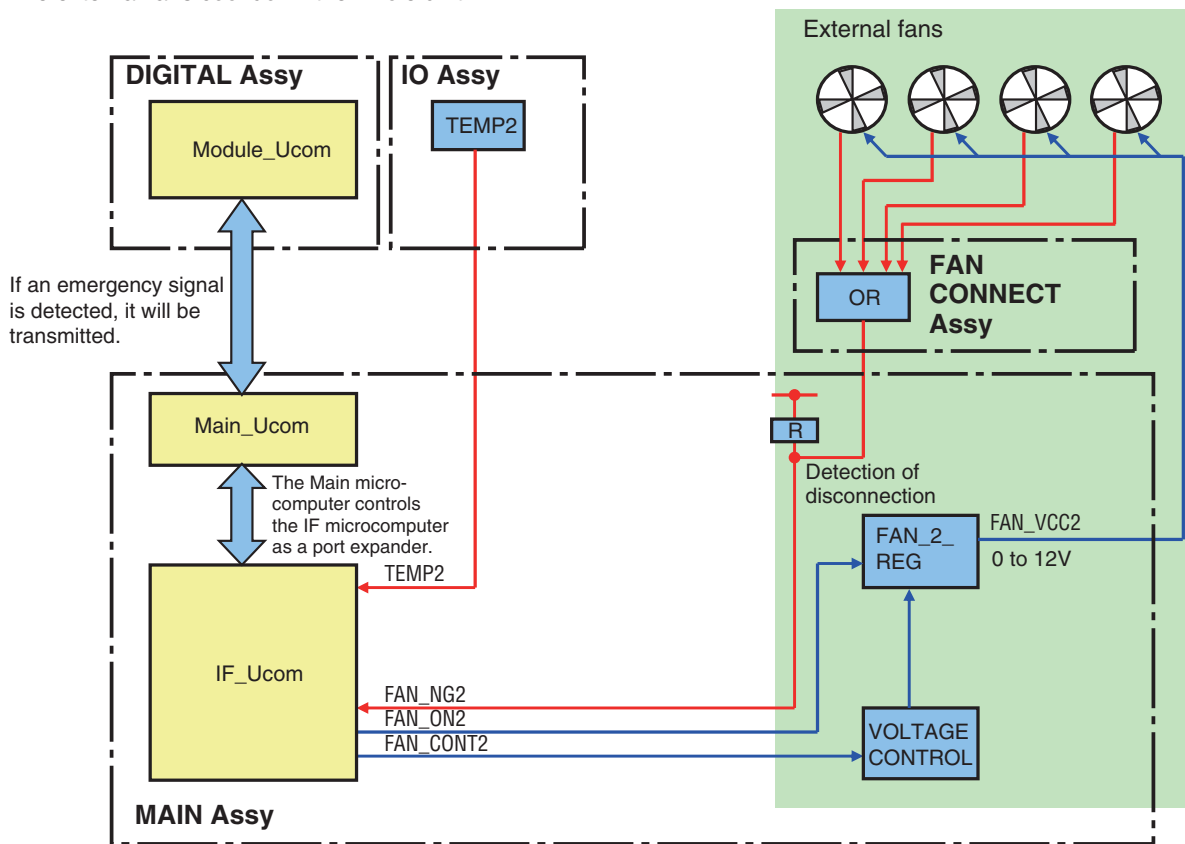
When the panel drive-power is OFF



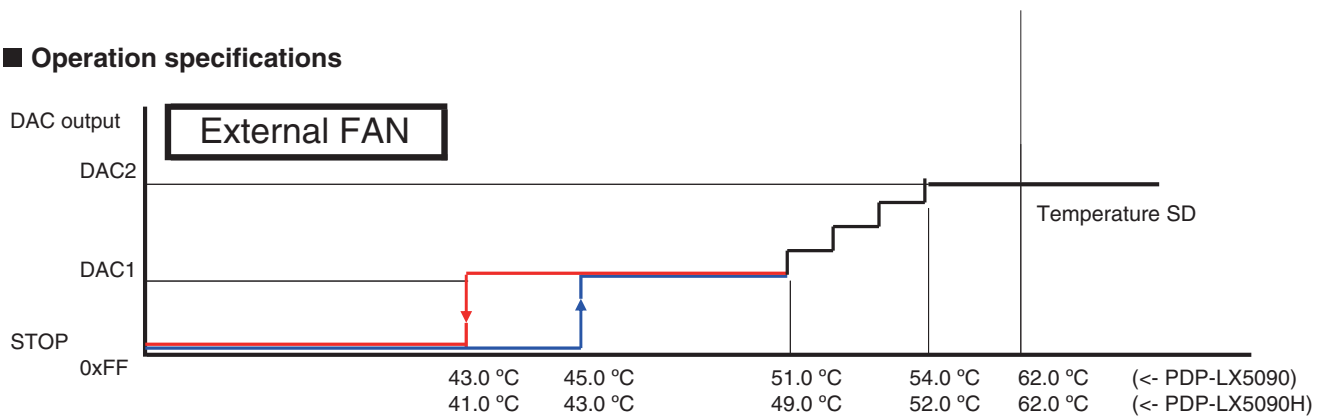
[2] SPECIFICATION OF THE FAN CONTROL

■ Block diagram

The external fans cool down the whole unit.



■ Operation specifications



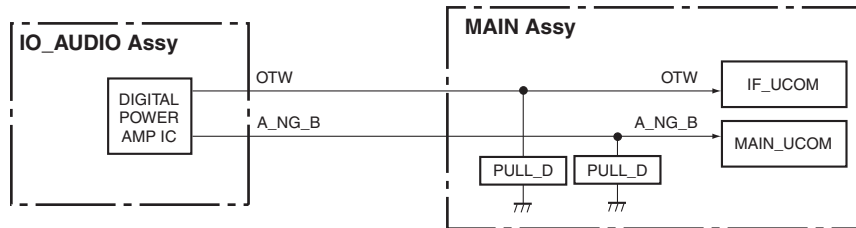
Notes:

- The operating temperature of the fan is higher than the ambient temperature, because the sensor temperature is read by the microcomputer.
- If the critical values for signals are displayed in the address circuit, the fan may be activated or be rotated at higher speed in response to values lower than the set temperature values shown above.
- When the temperature rises, the sensor voltage of TEMP2 decreases.
- When the voltage of the DAC output for external FAN decreases, rotation speed of FAN rises.

[3] PROCESSING IN ABNORMALITY

Speaker short-circuit

● Circuit configuration



● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
A_NG_B	AUDIO	Shutdown occurs when the signal is "L." 30 mS * 10 times	RST4 = "H" (always) (Monitoring starts 2 sec after the above conditions are established.)	The main CPU operations described below will be performed when either "A_NG_B = L" or "OTW = L" is detected (established) under the monitoring conditions.
OTW	AUDIO	Shutdown occurs when the signal is "L." 120 mS * 3 times		

● Operation specifications of the main CPU

- (1) Establish the short-circuit of the speaker by the main CPU
 - After a warning indication is displayed for 5 sec, a shutdown is generated (the blue LED flashes 5 times).
 - A warning indication is displayed for all input-signal types.
 - Example of a warning indication: "The speaker terminals are short-circuited. After reconnection, turn the unit on again."

(2) Display conditions

When the panel is on: A warning indication is displayed immediately.

When the panel is off: A warning indication is not displayed immediately but is displayed when the panel is turned on.

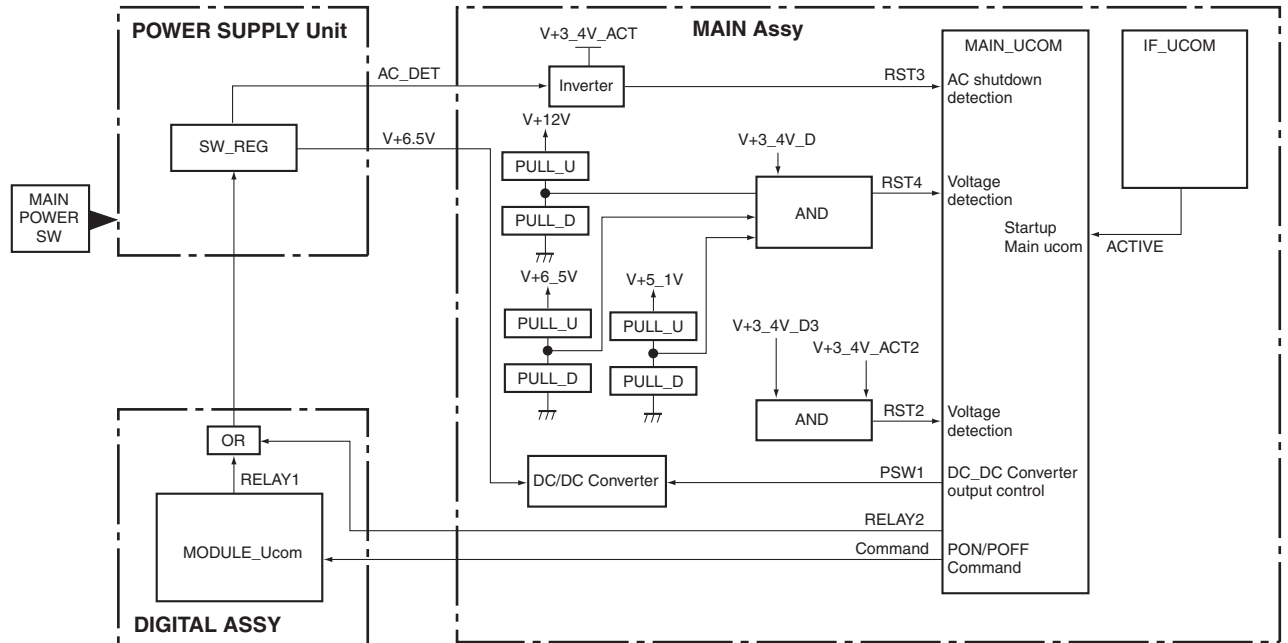
Note: A warning indication is displayed each time the panel is turned on if the conditions for a shutdown persist.

● Conditions for resetting the circuits

The circuits will be reset upon Standby ON/OFF.

Power supply and DC-DC converter

● Circuit configuration

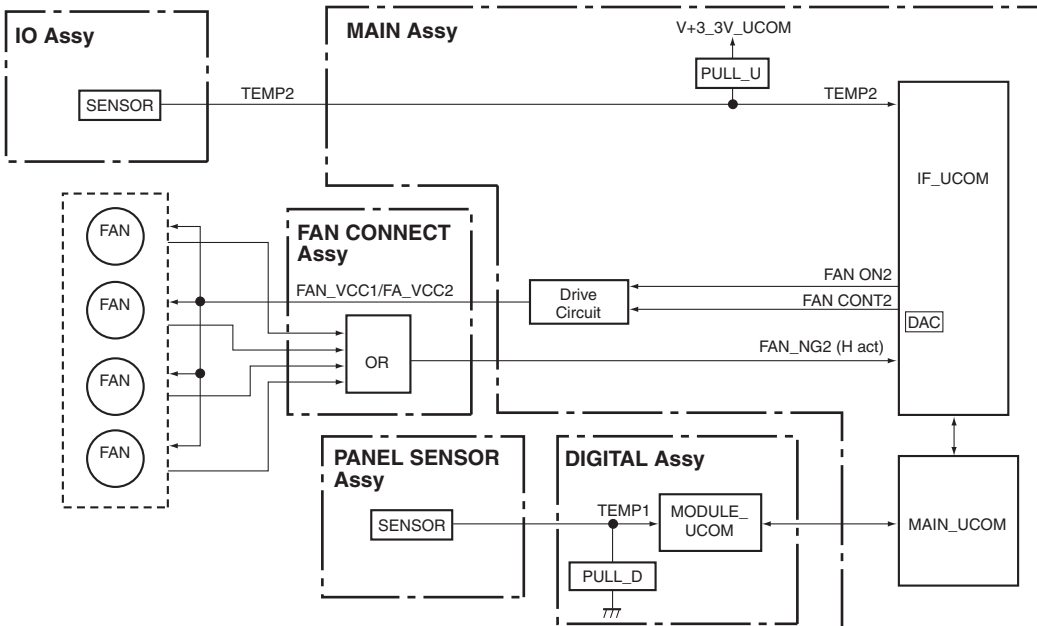


● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
RST2	ASIC power (M-DCDC)	Shutdown occurs when the signal is "L." for 5 sec after PSW1 is ON. or for 2 sec while the unit is ON.	<ul style="list-style-type: none"> Panel screen ON (RST4 = H and PSW1 = H) While awaiting restoration of RST2 (RST2 = L) 	Shutdown occurs immediately Blue LED flashes 13 times
RST3	AC power	AC_OFF when the signal is "H."	Excepting passive standby	If "RST3 = H" (AC_OFF) is detected under the monitoring conditions, a power-off process starts. Monitoring of the RST3 port is continued, while monitoring of other ports is interrupted. Communication is controlled only by the IF microcomputer. The port outputs are set as specified. If the signal at the RST3 port continues to be H after 30 mS of waiting, monitoring is continued. If RST3 is L, a restoration process starts according to the latest power-on/-off status.
RST4	MAIN power (RELAY)	Shutdown occurs if the signal is "L." for 5 sec after RELAY2 is ON. or for 2 sec while the unit is ON or in Functional STB.	RELAY2 = ON (High)	Shutdown occurs immediately Blue LED flashes 13 times

Fan and temperature sensor

● Circuit configuration

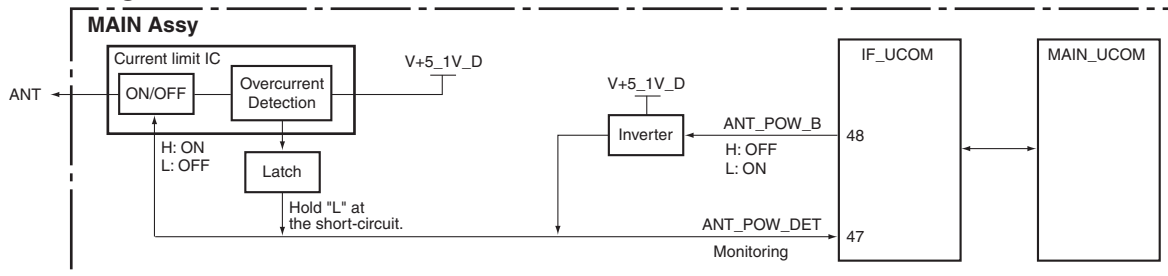


● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
FAN_NG2	FAN	Shutdown occurs when the signal is "H." 1 S * 3 times	RST2 = H and FAN_ON2 = H (Monitoring starts 3 sec after the above conditions are established.)	Shutdown occurs immediately Blue LED flashes 10 times
TEMP2	High temperature at MTB	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 1 S * 3 times	RST4 = H (Monitoring starts 1 sec after the above conditions are established.)	In the Panel screen ON: Shutdown occurs after the warning indication is displayed for 30 sec. In the Functional STB: Shutdown occurs immediately Blue LED flashes 11 times
TEMP1	Panel temperature is high	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 200 mS * 5 times (average)	Digital video RST2 = H	Shutdown occurs after waiting for 30 sec. Blue LED flashes 4 times
	Panel temperature is low			Shutdown occurs after waiting for 3 sec. Blue LED flashes 4 times

DTB Antenna power supply

● Circuit configuration



● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
ANT_POW_DET	DTB antenna short-circuited	Warning message is displayed when the signal is L (100 mS, 3 times)	RST4 = H and ANT_POW_B = L	If "ANT_POW_DET = L" is detected (established) under the monitoring conditions, an SD log is created and the warning message is displayed for 60 sec. A shutdown process is not performed in the power system.

5.7 OUTLINE OF RS-232C COMMAND

[1] PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.

- PC
- Application for control
- 232C cable (straight)
- * The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

[2] USING RS-232C COMMANDS

Individual ports are provided for RS-232C and SR+ connectors with this model. Therefore, unlike the case of previous models, which required switching of exclusive operation between these connectors on the Integrator menu, switching is no longer required.

5.8 LIST OF RS-232C COMMANDS

- A RS-232C commands can be used in Service Factory mode. Before using RS-232C commands, it is necessary to change the factory presetting. See "5.7 OUTLINE OF RS-232C COMMAND".
[Note ; If you want to see version information (ex. QS1, QSE, Factory, Menu), Please see 10 seconds after starting.]

■ RS-232C command list

	Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
				MDU	MTB			
B	A							
	ABL	***	Adjusting the upper limit of the power	●		MOD	●	
	AMT	S00	Audio mute OFF		●			
		S01	Audio mute ON		●			
	AP0	S**	ADDRESS L1, L2 setting	●		MOD	●	Note 1
	AP1	S**	ADDRESS L3, L4 setting	●		MOD	●	Note 1
	AP2	S**	ADDRESS U1, U2 setting	●		MOD	●	Note 1
	AP3	S**	ADDRESS U3, U4 setting	●		MOD	●	Note 1
	APN	***	1V average pulse number setting	●		MOD	●	
	B							
BCP		Copying the backup data in the EEPROM	●		MOD	●		
C	BSM	S00	After image/Burning safe mode: OFF	●				
		S01	After image/Burning safe mode: ON	●				
	C							
D	CHN	FWD	Changing tuner preset channel (1 step forward)		●			
		REV	Changing tuner preset channel (1 step reverse)		●			
	CBU		Clearing backup data of EEPROM	●		MOD	●	
	CHM		Clearing data of the hour meter	●	●	MOD	●	
	CHR		Clearing data of the hour meter of MTB/MR side		●			Clear the hour meter of screen display of MAIN NG
	CMT		Clearing data of the maximum temperature	●		MOD	●	
	CNG		Clearing shutdown history of MTB/MR side		●			
	CPC		Clearing power-on count data	●		MOD	●	
	CPD		Clearing power-down history	●		MOD	●	
	CPM		Clearing data of the pulse meter	●		MOD	●	
E	CSD		Clearing shutdown history of Panel side	●		MOD	●	
	CSF	S00	Color sensor function OFF	●				
		S01	Color sensor function ON	●				
	CSM	S01	Color space mode 1: Pioneer original	●				
		S02	Color space mode 2: EBU standard conformity	●				
	CSB	***	Blue coefficient of color sensor	●		MOD	●	
	CSG	***	Green coefficient of color sensor	●		MOD	●	
	CSR	***	Red coefficient of color sensor	●		MOD	●	
	CTP	S00	Color temperature switch OFF	●				
		S01	Color temperature switch LOW setting	●				
S02		Color temperature switch MID LOW setting	●					
S03		Color temperature switch MID setting	●					
S04		Color temperature switch MID HIGH setting	●					
S05		Color temperature switch HIGH setting	●					
D								
F	DIZ	S00	Dither/L dither OFF & noise OFF	●			●	
		S01	Dither/L dither ON & noise ON	●			●	
		S02	Dither/L dither OFF & noise ON	●			●	
		S03	Dither/L dither ON & noise OFF	●			●	
	DRV	S00	Panel drive-power OFF	●				
S01		Panel drive-power ON	●					
DW*		To subtract * to the adjustment value (* = 0 to 9, subtract 10 with DW0 and set to minimum value with DWF)		●				

Note 1: It is necessary to turn off the power for reflecting the setting change.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
F							
FAJ		Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed"	●		MOD	●	
FAN		Factory mode OFF	●	●		●	
FAY		Factory mode ON	●	●			
FBM	S00	OFF (In-phase SUS drive prohibition)	●		MOD	●	Note 1
	S01	MODE1 (In-phase SUS drive permission)	●		MOD	●	Note 1
FST	S32	Set each memory setting of MTB/MR side to the shipment state.		●		●	PDP-LX5090H only
	S34	Set each memory setting of MTB/MR side to the shipment state.		●		●	PDP-LX5090 only
I							
INA	***	Switching the terrestrial analog signal, direct tuning (***: channel number)		●	MAIN		
		Switching the terrestrial analog signal (Channnel is in the last.)		●	MAIN		
INC	***	Switching the terrestrial digital signal, direct tuning (***:channel number)		●	MAIN		
		Switching the terrestrial digital signal (Channnel is in the last.)		●	MAIN		
IND	***	Switching the satellite digital signal, direct tuning (***:channel number)		●	MAIN		
		Switching the satellite digital signal (Channnel is in the last.)		●	MAIN		
INH	***	Switching the Home Media Gallery / Home Gallery		●			
INP	S01	Input switch: INPUT 1		●	MAIN		
	S02	Input switch: INPUT 2		●	MAIN		
	S03	Input switch: INPUT 3		●	MAIN		
	S04	Input switch: INPUT 4		●	MAIN		
	S05	Input switch: INPUT 5		●	MAIN		
	S06	Input switch: INPUT 6 (PC)		●	MAIN		
M							
MIR	S00	Mirror display mode: OFF	●				
	S01	Mirror display mode: Right and left inversion	●				
	S02	Mirror display mode: Top and bottom inversion	●				
	S03	Mirror display mode: Top and bottom and right and left inversion	●				
MKC	S00	MASK OFF	●		MOD		
	S01	H ramp (slant 1) M	●		MOD	●	
	S02	H ramp (slant 4) M	●		MOD	●	
	S03	Slanting ramp M	●		MOD	●	
	S04	30 for aging	●		MOD	●	
	S05	05 for aging	●		MOD	●	
	S06	Erasing afterimage 1	●		MOD	●	
	S07	Erasing afterimage 2	●		MOD	●	
	S08	White (change in luminance level)	●		MOD	●	
	S09	PEAK detection raster	●		MOD	●	
	S10	Address lack check	●		MOD	●	
	S11	Green vertical line scroll	●		MOD	●	
	S12	Green horizontal line scroll	●		MOD	●	
	S13	Vertical ramp vertical scroll (white)	●		MOD	●	
	S14	Vertical ramp vertical scroll (green)	●		MOD	●	
	S15	Horizontal ramp horizontal scroll (white)	●		MOD	●	
	S16	Horizontal ramp horizontal scroll (green)	●		MOD	●	
S17	Cross hatch + window	●		MOD	●		
MKS	S00	MASK OFF	●		MOD		
	S01	H ramp (slant 1)	●		MOD	●	
	S02	H ramp (slant 4)	●		MOD	●	

Note 1: It is necessary to turn off the power for reflecting the setting change.

A

B

C

D

E

F

Command Name	Function		Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
M							
MKS	S03	V ramp (slant 1)	●		MOD	●	
	S04	Slanting ramp	●		MOD	●	
	S05	Window (Hi= 870, Lo= 102)	●		MOD	●	
	S06	Window (Hi= 1023, Lo= 102)	●		MOD	●	
	S07	Window (Hi= 1023, Lo=000)	●		MOD	●	
	S08	Window (Hi= 1023) 4 %	●		MOD	●	
	S09	Window (Hi= 1023) 1.25 %	●		MOD	●	
	S10	Window (1/7 LINE)	●		MOD	●	
	S11	STRIPE (MGT/GRN)	●		MOD	●	
	S12	STRIPE (GRN/MGT)	●		MOD	●	
	S13	B & W, checker (1 line)	●		MOD	●	
	S14	B & W, checker (2 lines)	●		MOD	●	
	S15	B & W, checker (4 lines)	●		MOD	●	
	S16	B & W, checker (8 lines)	●		MOD	●	
	S17	COLOR BAR	●		MOD	●	
	S18	Slanting lines	●		MOD	●	
	S19	Red & black, checker (1 line)	●		MOD	●	
	S20	Red & black, checker (2 lines)	●		MOD	●	
	S21	Red & black, checker (4 lines)	●		MOD	●	
	S22	Red & black, checker (8 lines)	●		MOD	●	
	S23	Erasing afterimage (RGB: zigzag, V: reverse)	●		MOD	●	
	S24	Black raster (max SUS pulses)	●		MOD	●	Note 5
	S25	1 for perfect linear	●		MOD	●	
	S26	2 for perfect linear	●		MOD	●	
	S27	3 for perfect linear	●		MOD	●	
	S28	4 for perfect linear	●		MOD	●	
	S29	RGB checker 1	●		MOD	●	
	S30	RGB checker 2	●		MOD	●	
	S31	Window RED (RED=1023)	●		MOD	●	
	S32	Window GREEN (GREEN=1023)	●		MOD	●	
	S33	Window BLUE (BLUE=1023)	●		MOD	●	
	S34	Even line horizontal stripes	●		MOD	●	
	S35	Odd line horizontal stripes	●		MOD	●	
	S36	Afterimage check 1	●		MOD	●	
	S37	Afterimage check 2	●		MOD	●	
	S38	Afterimage check 3	●		MOD	●	
	S39	Afterimage check 4	●		MOD	●	
	S40	Red single-color slanting ramp	●		MOD	●	
	S41	GREEN single-color slanting ramp	●		MOD	●	
	S42	BLUE single-color slanting ramp	●		MOD	●	
	S43	For panel light check 1	●		MOD	●	
	S44	For panel light check 2	●		MOD	●	
	S45	5 for perfect linear	●		MOD	●	
	S46	6 for perfect linear	●		MOD	●	
	S47	7 for perfect linear	●		MOD	●	
	S48	8 for perfect linear	●		MOD	●	
	S49	Mask for ABL adjustment	●		MOD	●	

Note 5: Peak luminance detection function (PKD) modification is impossible.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
MKR	S00	MASK OFF	●		MOD		
	S01	Raster - White	●		MOD	●	
	S02	Raster - Red	●		MOD	●	
	S03	Raster - Green	●		MOD	●	
	S04	Raster - Blue	●		MOD	●	
	S05	Raster - Black	●		MOD	●	
	S06	Raster - Cyan	●		MOD	●	
	S07	Raster - Magenta	●		MOD	●	
	S08	Raster - Yellow	●		MOD	●	
	S09	Raster - Pink	●		MOD	●	
	S10	Raster - Yellow egg color	●		MOD	●	
	S11	Raster - Light blue	●		MOD	●	
	S12	Raster - Beige	●		MOD	●	
	S13	Raster - Yellow green	●		MOD	●	
	S14	Raster - Cyan 120	●		MOD	●	
	S15	Raster - Magenta 120	●		MOD	●	
	S16	Raster - Yellow 120	●		MOD	●	
	S17	Raster - Gray 120	●		MOD	●	
	S18	Raster - Red 626	●		MOD	●	
	S19	Raster - Green 626	●		MOD	●	
	S20	Raster - Blue 626	●		MOD	●	
	S21	Raster - Red 1023+	●		MOD	●	
	S22	Raster - Green 1023+	●		MOD	●	
	S23	Raster - Blue 1023+	●		MOD	●	
	S24	Raster - Green 225	●		MOD	●	
	S25	Raster - Gray 307	●		MOD	●	
MSE	S00	Product form : one body/monitor model	●		MOD	●	Note 1
	S01	Product form : System model	●		MOD	●	Note 1
MST	S00	Display one screen		●			
	S01	PsideP (Main size: normal)		●			
	S02	PinP (Right down)		●			
	S03	PinP (Right up)		●			
	S04	PinP (Left down)		●			
	S05	PinP (Left up)		●			
	S08	SWAP (Exchanging sub-screen)		●			
N							
NGP	S00	Negative positive inversion: OFF	●				
	S01	Negative positive inversion: ON	●				
O							
OSD	S00	OSD display setting: OFF		●	MAIN		
	S01	OSD display setting: ON		●	MAIN		
P							
PAV	S00	AV selection: FACTORY	●				
	S01	AV selection: STANDARD / PERFORMANCE	●				
	S02	AV selection: DYNAMIC	●				
	S03	AV selection: MOVIE	●				
	S04	AV selection: GAME	●				
	S05	AV selection: SPORT	●				
	S06	AV selection: PURE	●				
	S07	AV selection: USER	●				

Note 1: It is necessary to turn off the power for reflecting the setting change.

A

Command Name	Function		Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
P							
PAV	S08	AV selection: isf-DAY	●				
	S09	AV selection: isf-NIGHT	●				
	S10	AV selection: OPTIMUM	●				
	S11	AV selection: isf-AUTO	●				
	S12	AV selection: Standard	●				
	S13	AV selection: Reserved (Australian standard)	●				
PBH	***	Panel white balance adjustment - Blue highlight	●		MOD	●	
PBL	***	Panel white balance adjustment - Blue low light	●		MOD	●	
PBX	***	Panel Bx measuring value	●		MOD	●	
PBY	***	Panel By measuring value	●		MOD	●	
PCS	S00	Normal operation	●				
	S01	Catalog specification operation	●				
PDM	S00	Passing PD signals to the POWER SUPPLY Unit => Power-down	●				
	S01	Not passing PD signals to the POWER SUPPLY Unit => No power-down	●				
PES	S00	For general-purpose commonness: Standard	●				
	S01	For general-purpose commonness: Energy saving 1	●				
	S02	For general-purpose commonness: Energy saving 2	●				
	S10	For general-purpose Japan standard: Standard	●				
	S11	For general-purpose Japan standard: Energy saving 1	●				
	S12	For general-purpose Japan standard: Energy saving 2	●				
PFL	S**	Center luminance correction	●				
	S00	Peripheral luminance correction: OFF	●				
	S01	Peripheral luminance correction: ON fixed	●				
	S02	Peripheral luminance correction: APL interlocked ON	●				
PFN		Factory mode at panel side: OFF	●			●	
PFS		Setup the panel side to shipment	●		MOD	●	
PFY		Factory mode at panel side: ON	●				Note 2
PGB	S00	Blue gamma setting: Straight	●				
	S01	Blue gamma setting: Fixed on 1.6	●				
	S02	Blue gamma setting: Fixed on 1.7	●				
	S03	Blue gamma setting: Fixed on 1.8	●				
	S04	Blue gamma setting: Fixed on 1.9	●				
	S05	Blue gamma setting: Fixed on 2.0	●				
	S06	Blue gamma setting: Fixed on 2.1	●				
	S07	Blue gamma setting: Fixed on 2.2	●				
	S08	Blue gamma setting: Fixed on 2.3	●				
	S09	Blue gamma setting: Fixed on 2.4	●				
	S10-31	Blue gamma setting: Customize	●				
	PGG	S00	Green gamma setting: Straight	●			
S01		Green gamma setting: Fixed on 1.6	●				
S02		Green gamma setting: Fixed on 1.7	●				
S03		Green gamma setting: Fixed on 1.8	●				
S04		Green gamma setting: Fixed on 1.9	●				
S05		Green gamma setting: Fixed on 2.0	●				
S06		Green gamma setting: Fixed on 2.1	●				
S07		Green gamma setting: Fixed on 2.2	●				
S08		Green gamma setting: Fixed on 2.3	●				
S09		Green gamma setting: Fixed on 2.4	●				
S10-31		Green gamma setting: Customize	●				
PGH		***	Panel white balance adjustment - Green highlight	●		MOD	●

Note 2: Mask setting and the picture quality setting of MTB are not changed.

Command Name	Function		Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
P							
PGL	***	Panel white balance adjustment - Green low light	●		MOD	●	
PGX	***	Panel Gx measuring value	●		MOD	●	
PGY	***	Panel Gy measuring value	●		MOD	●	
PGR	S00	Red gamma setting: Straight	●				
	S01	Red gamma setting: Fixed on 1.6	●				
	S02	Red gamma setting: Fixed on 1.7	●				
	S03	Red gamma setting: Fixed on 1.8	●				
	S04	Red gamma setting: Fixed on 1.9	●				
	S05	Red gamma setting: Fixed on 2.0	●				
	S06	Red gamma setting: Fixed on 2.1	●				
	S07	Red gamma setting: Fixed on 2.2	●				
	S08	Red gamma setting: Fixed on 2.3	●				
	S09	Red gamma setting: Fixed on 2.4	●				
	S10-31	Redt gamma setting: Customize	●				
	PKD	S00	Peak luminance detection: OFF	●			●
S01		Peak luminance detection: ON	●			●	
PKL	S00	No brightness limitation : 100 %	●				
	S01	Brightness limitation 1 : 87 %	●				
	S02	Brightness limitation 2 : 73 %	●				
	S03	Brightness limitation 3 : 60 %	●				
	S04	Brightness limitation 4 : 52 %	●				
	S05	Brightness limitation 5 : 40 %	●				
	S06	Brightness limitation 6 : 27 %	●				
	S07	Brightness limitation 7 : 13 %	●				
PMT	S00	Canceling panel muting	●				Note 3
	S01	Panel muting	●				
POF		Power OFF	●	●	MAIN		
PON		Power ON	●	●	MAIN		
PPT	S00	Panel protection function: OFF	●			●	
	S01	Panel protection function: ON	●			●	
PRH	***	Panel white balance adjustment - Red highlight	●		MOD	●	
PRL	***	Panel white balance adjustment - Red low light	●		MOD	●	
PRX	***	Panel Rx measuring value	●		MOD	●	
PRY	***	Panel Ry measuring value	●		MOD	●	
PUC	S00	Pure cinema: OFF		●	MAIN	●	
	S01	Pure cinema: Standard		●	MAIN	●	
	S02	Pure cinema: Advance		●	MAIN	●	
	S03	Pure cinema: Smooth		●	MAIN	●	
Q							
QAJ		Acquiring various adjustment values of the panel side	●				
QMT		Acquiring temperature of MTB/MR side and Fan speed		●			
QNG		Acquiring shutdown information of MTB/MR side		●			
QPD		Acquiring logs of power-down points	●				
QPM		Acquiring data of the pulse meter	●				
QPW		Acquiring panel white balance adjustment values	●				
QPF		Acquiring characteristic / function setting values of the panel side	●				
QS1		Acquiring unit data, such as the software version	●	●			
QS2		Acquiring data on the status of the unit, such as temperature	●				

Note 3: The mute is unable while displaying the internal mask.

A

Command Name			Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
				MDU	MTB			
Q								
QS3			Each information output for panel	●				
QS5			Each information output for panel (individual function)	●				
QSE			Acquiring unit data, such as the software version of MTB/MR side (specific destination)		●			
QSP			Acquiring sub-version of the microcomputer for panel	●				
QSD			Acquiring data on shutdown	●				
QSI			Acquiring data related with signals	●				
R								
R1K	***		First reset (wedge width)	●		MOD	●	
R2K	***		Second reset (wedge width)	●		MOD	●	
RBL	S00-07		BLUE setting for panel degradation correction : Level 0 to 7	●		MOD	●	Note 1
RGL	S00-07		GREEN setting for panel degradation correction : Level 0 to 7	●		MOD	●	Note 1
RLS	S00		Room light sensor operation : OFF	●				
	S01-05		Room light sensor operation : 1 to 5	●				
RRL	S00-07		RED setting for panel degradation correction : Level 0 to 7	●		MOD	●	Note 1
S								
SAT	***		Timing adjustment between the scan and address	●		MOD	●	
SCW	S00		Normal operation	●				
	S01		Draw the warning blue window (left side)	●				
	S02		Draw the warning red window (right side)	●				
SDF	S00		SRS DEFINITION: OFF		●			
	S01		SRS DEFINITION: DEFINITION1		●			
	S02		SRS DEFINITION: DEFINITION2		●			
	S03		SRS DEFINITION: DEFINITION3		●			
SDM	S00		Shutdown enabled	●				
	S01		Shutdown prohibited	●				
SFR	S01-08		Measures against AM radio noise - Pattern 1 to 8	●		MOD	●	Note 1
SKM	S00		STREAKING correction mode OFF	●		MOD	●	
	S01-08		STREAKING correction mode Setting mode 1 to 8	●		MOD	●	
SMC	S00		Smooth clear drive OFF	●			●	
	S01		Smooth clear drive ON	●			●	
SML	***		Adjustment of the side mask level		●	MAIN	●	
SN0	***		Setting of the serial No. 0 (panel)	●		MOD	●	
SN1	***		Setting of the serial No. 1 (panel)	●		MOD	●	
SN2	***		Setting of the serial No. 2 (panel)	●		MOD	●	
SN3	***		Setting of the serial No. 3 (panel)	●		MOD	●	
SN4	***		Setting of the serial No. 4 (panel)	●		MOD	●	
SQM	S01		VIDEO sequence setting	●				
	S02		PC sequence setting	●				
	S03		FILM sequence setting	●				
SRS	S00		SRS: OFF		●			
	S01		SRS: SRS1		●			
	S02		SRS: SRS2		●			
	S03		SRS: SRS3		●			
SSM	S00		SSCG OFF	●			●	
	S01		SSCG ON	●			●	
SWA	***		Estimated value of the illuminant color (absolute value)	●				
SWF	S00		Reflection of the estimated information of the illuminant color: OFF	●				
	S01		Reflection of the estimated information of the illuminant color: ON	●				
SWR	***		Estimated value of the illuminant color (relative value)	●				

Note 1: It is necessary to turn off the power for reflecting the setting change.

Command Name	Function		Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
S							
SZM	S00	Setting the screen size to Dot by Dot		●	MAIN		
	S01	Setting the screen size to 4 :3		●	MAIN		
	S02	Setting the screen size to FULL or FULL 1080i		●	MAIN		
	S03	Setting the screen size to ZOOM		●	MAIN		
	S04	Setting the screen size to CINEMA		●	MAIN		
	S05	Setting the screen size to WIDE or WIDE1		●	MAIN		
	S06	Setting the screen size to FULL 14:9		●	MAIN		
	S07	Setting the screen size to CINEMA 14:9		●	MAIN		
	S11	Setting the screen size to AUTO		●	MAIN		
	S12	Setting the screen size to WIDE2		●	MAIN		
T							
TBS	S00	TRUBASS: OFF		●			
	S01	TRUBASS: TRUBASS1		●			
	S02	TRUBASS: TRUBASS2		●			
	S03	TRUBASS: TRUBASS3		●			
THS	S00	Theater port interlock operation OFF	●				
	S01	Theater port interlock operation ON	●				
U							
UAJ		Determining the flag for the DIGITAL Assy adjustment in "not adjusted"	●		MOD	●	
UP*		To add * to the adjustment value (* = 0 to 9, add 10 with UP0 and set to maximum value with UPF)		●			
V							
V1F	***	Adjustment of the reference value of Vyknofs 1, 2 voltage	●		MOD	●	
V3F	***	Adjustment of the reference value of Vyknofs 3 voltage	●		MOD	●	
V4F	***	Adjustment of the reference value of Vyknofs 4 voltage	●		MOD	●	
VFQ	S02	Setting the frequency in Mask mode to VD-50 Hz	●		MOD	●	
	S03	Setting the frequency in Mask mode to VD-60 Hz	●		MOD	●	
	S05	Setting the frequency in Mask mode to VD-72 Hz	●		MOD	●	
	S06	Setting the frequency in Mask mode to VD-75 Hz-1	●		MOD	●	
	S07	Setting the frequency in Mask mode to VD-75 Hz-2	●		MOD	●	
	S13	Setting the frequency in Mask mode to PC-60 Hz	●		MOD	●	
VOF	***	Adjustment of the reference value of Vysnofs voltage	●		MOD	●	
VOL	UP*, DW*, ***	To adjust the volume		●			Note 4
VRP	***	Adjustment of the reference value of Vyprst voltage	●		MOD	●	
VSU	***	Adjustment of the reference value of Vsus voltage	●		MOD	●	
VX1	***	Adjustment of the reference value of Vxpofs1 voltage	●		MOD	●	
VX2	***	Adjustment of the reference value of Vxpofs2 voltage	●		MOD	●	
VYF	***	Adjustment of the reference value of Δ Vyknofs1, 2/3/4 voltage	●		MOD	●	
W							
WBI	S00	Panel WB standard output mode: OFF	●			●	
	S01	Panel WB standard output mode: ON	●			●	
X							
X1B	***	3SF and later-first XSUS (resonance up width)	●		MOD	●	
X3B	***	2SF-third XSUS (resonance up width)	●		MOD	●	
XSB	***	2SF-repeat XSUS (resonance up width)	●		MOD	●	

Note 4: Use this command by designating the adjustment value *** (=000 to 060).

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Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
Y							
Y1K	***	1SF-YSUS-Tail (wedge width)	●		MOD	●	
Y1Z	***	1SF-YSUS-Tail (resonance down width)	●		MOD	●	
Y2B	***	2SF-second YSUS (resonance up width)	●		MOD	●	
Y2K	***	2SF-YSUS-Tail (wedge width)	●		MOD	●	
Y2Z	***	2SF-YSUS-Tail (resonance down width)	●		MOD	●	
YNK	***	3SF and later (SSF 2 pulses)-YSUS Tail (wedge width)	●		MOD	●	
YTK	***	3SF and later-YSUS Tail (wedge width)	●		MOD	●	
YTZ	***	3SF and later-YSUS Tail (resonance down width)	●		MOD	●	
YSB	***	2SF-repeat YSUS (resonance up width)	●		MOD	●	
Z							
ZME	***	Initializing the video EEPROM data of the MTB/MR side		●		●	

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A [2] QS2 (PANEL OPERATION DATA)

The command QS2 is for acquiring data on the panel's operational information.

Command Format	Effective Operation Modes	Function	Remarks
[QS2]	Every Time	Output of status	Return data: 3 (ECO) + 34 (DATA) + 2 (CS) = 39 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS2
1	Notify of the standby operation transition	1 byte	1
2	Adjustment flag of the main unit	1 byte	0
3	Adjustment-data backup flag	1 byte	0
4	"1st PD" data	1 byte	0
5	"2nd PD" data	1 byte	0
6	Color sensor data	1 byte	0
7	Reserved	2 byte	**
8	Temperature data (TEMP 1)	3 byte	128
9	SD data	1 byte	0
10	SD subcategory data	1 byte	0
11	Operation status induced by SD	1 byte	0
12	Reserved	3 byte	***
13	HOUR METER	8 byte	00000259
14	MASK indication	1 byte	0
15	Still picture detection	1 byte	0
16	SCAN protection detection	1 byte	0
17	Panel crack detection	1 byte	0
18	Address emergency detection	1 byte	0
19	Reserved	4 byte	****
CS	2 Byte	2 byte	4A

9: SD data

0	No SD
1	SQ_LSI
2	MDU-DEVICE
3	RST2
4	Panel temperature

10-1: SD subcategory (SQ_LSI)

0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (H/M)
6	Version mismatching (H/I)

10-2: SD subcategory (MDU-DEVICE)

0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

10-3: SD subcategory (Panel temperature)

0	No SD-Sub data
1	Panel high temperature
2	Panel low temperature

11: Operation status induced by SD

0	Normal
1	Relay-off completed
2	During warning indication

14: MASK indication

0	MASK-OFF
1	MASK-ON

15 to 18: Detection of Each Protection function

0	Normal operation
1	At detection of protection operation

1: Power supply status

P	During power ON
0	Shifting to Passive Standby is not possible.
1	Shifting to Passive Standby is possible.

2: Adjustment flag of the main unit

0	Adjustment completed
1	Adjustment not completed

3: Adjustment-data backup flag

0	Adjustment completed
1	Adjustment not completed

4, 5: PD data

0	No PD data
2	POWER
3	SCAN
4	SCN-5V
6	Y-DCDC
7	Y-SUS
8	ADRS
A	X-DCDC
B	X-SUS
C	DIG-DCDC
F	UNKNOWN

6: Color sensor data

-	Function OFF (including standby)
0	Normal
1	Hardware connection is not completed
2	Data mismatching

[3] QS3 (OTHER DATA ON THE PANEL)

The command QS3 is for acquiring data on operational information of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QS3]	Every Time	Output of status	Return data: 3 (ECO) + 58 (DATA) + 2 (CS) = 63 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS3
1	SERIAL	15 byte	-----
2	HOURLY METER	8 byte	00000000
3	TOTAL HR METER	8 byte	00000000
4	PON COUNTER	8 byte	00000000
5	Panel temperature (*1)	5 byte	23.5
6	Reserved (TEMP0 acquisition)	5 byte	__ _'
7	MAX panel temperature history (*1)	5 byte	78.3
8	Reserved	4 byte	****
CS	2 Byte	2 byte	94

Note
(*1) : Centigrade scale

[4] QS5 (COLOR SENSOR DATA)

The command QS5 is for acquiring the color sensor information.

Command Format	Effective Operation Modes	Function	Remarks
[QS5]	Every Time	Output of status	Return data: 3 (ECO) + 45 (DATA) + 2 (CS) = 50 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS5
1	Color sensor data (Note)	1 byte	2
2	RED data of color sensor	4 byte	0425
3	GREEN data of color sensor	4 byte	2112
4	BLUE data of color sensor	4 byte	5000
5	Reserved	32 byte	** to **
CS	2 Byte	2 byte	94

Note: The color sensor data is output as the same data as QS2.

A [5] QSP (SUB VERSION OF THE PANEL SECTION)

The command QSP is for acquiring sub version data on software of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QSP]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSP
1	MDUcom-PRG	8 byte	=01Y
2	MDUcom-DATA_TBL	8 byte	=01Y ''''
3	SQ_LSI-PRG	4 byte	=01Y
4	SQ_LSI-PIC_TBL	8 byte	=01Y ''''
5	SQ_LSI-SEQ_DATA	4 byte	=01Y
6	Reserved	8 byte	*****
CS	2 Byte	2 byte	A3

C

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[6] QAJ (PANEL ADJUSTMENT DATA)

The command QAJ is for acquiring the panel's factory-preset data.

Command Format	Effective Operation Modes	Function	Remarks
[QAJ]	Every Time	Output of status	Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QAJ
1	Vsus adjustment value	3 byte	128
2	Vysnfs adjustment value	3 byte	128
3	Vyprst adjustment value	3 byte	128
4	Vxpofs1 adjustment value	3 byte	128
5	Vxpofs2 adjustment value	3 byte	128
6	Vyknofs1,2 adjustment value	3 byte	128
7	Vyknofs3 adjustment value	3 byte	128
8	Vyknofs4 adjustment value	3 byte	128
9	Δ Vyknofs1,2/3/4 adjustment value	3 byte	128
10	Reserved	6 byte	*****
11	R1K adjustment value	3 byte	128
12	R2K adjustment value	3 byte	128
13	Y1K adjustment value	3 byte	128
14	Y1Z adjustment value	3 byte	128
15	X1B adjustment value	3 byte	128
16	Y2B adjustment value	3 byte	128
17	X3B adjustment value	3 byte	128
18	YSB adjustment value	3 byte	128
19	XSB adjustment value	3 byte	128
20	YTK adjustment value	3 byte	128
21	YTZ adjustment value	3 byte	128
22	Y2K adjustment value	3 byte	128
23	Y2Z adjustment value	3 byte	128
24	YNK adjustment value	3 byte	128
25	SAT adjustment value	3 byte	128
26	Reserved	3 byte	***
27	AM radio countermeasure	1 byte	1
28	Reserved	2 byte	**
CS	2 Byte	2 byte	B7

27: AM radio countermeasure

n	n: 1 to 8 (SUS frequency n)
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[7] QPW (VIDEO ADJUSTMENT DATA OF THE PANEL)

The command QPW is for acquiring the factory-preset data about the video of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPW]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement	Data Length	Output Example
ECO	3 byte	QPW
1 Type of drive sequence (Note 1)	4 byte	60VS
2 ABL adjustment table	1 byte	1
3 Type of WB adjustment table (Note 1)	1 byte	1
4 ABL adjustment value	3 byte	128
5 R-HIGH adjustment value	3 byte	256
6 G-HIGH adjustment value	3 byte	256
7 B-HIGH adjustment value	3 byte	256
8 R-LOW adjustment value	3 byte	512
9 G-LOW adjustment value	3 byte	512
10 B-LOW adjustment value	3 byte	512
11 R gamma setting	2 byte	31
12 G gamma setting	2 byte	10
13 B gamma setting	2 byte	10
14 Streaking correction	1 byte	1
15 Center luminance correction	1 byte	0
16 Reserved	1 byte	*
17 Interlocked with APL	1 byte	0
18 Transition of protective operations	1 byte	0
19 Reserved	2 byte	**
CS 2 Byte	2 byte	37

1: Type of Drive sequence	
50VS	Video 50 Hz
60VS	Video 60 Hz
72VS	Video 72 Hz
75V1	Video 75-1 Hz
75V2	Video 75-2 Hz
60PS	PC 60 Hz

2: ABL adjustment table	
n	n: 1 to 3

3: Type of WB adjustment table	
n	n: 1 to 4

11, 12, 13: RGB Gamma setting	
n	00 to 31

15: Center luminance correction	
0	OFF
1	ON
2	ON (interlocked with APL)

17: Interlocked with APL	
0	OFF
1	ON
2	WB interlocked ON/ γ OFF
3	WB interlocked OFF/ γ ON

18: Transition of protective operations	
0	Upper limit state for brightness
1	Brightness being reduced
2	Lower limit state for brightness
3	Brightness being increased

Note 1: The "75 Hz-2" Drive Sequence type signals and WB Adjustment Table 4 are output only when "75 Hz-2" (VFQS07) is selected for internal signals (mask signals).
When external signals are selected and the Drive Sequence type is 75 Hz, "75 Hz-1" is output because "75 Hz-1" and "75 Hz-2" are not distinguished for external signals.

[8] QPF (FUNCTION OF THE PANEL)

The command QPF is for acquiring the characteristic and the function setting value of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPF]	Every Time	Output of status	Return data: 3 (ECO) + 69 (DATA) + 2 (CS) = 74 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPF
1	R-REVISE setting value	1 byte	0
2	G-REVISE setting value	1 byte	0
3	B-REVISE setting value	1 byte	0
4	Reserved	3 byte	***
5	ADDRESS L1,L2 setting value	2 byte	01
6	ADDRESS L3,L4 setting value	2 byte	13
7	ADDRESS U1,U2 setting value	2 byte	32
8	ADDRESS U3,U4 setting value	2 byte	30
9	Reserved	4 byte	****
10	Streaking correction	1 byte	1
11	Full-screen black display mode	1 byte	1
12	Reserved	4 byte	****
13	PANEL RX	3 byte	512
14	PANEL RY	3 byte	512
15	PANEL GX	3 byte	512
16	PANEL GY	3 byte	512
17	PANEL BX	3 byte	512
18	PANEL BY	3 byte	512
19	Reserved	6 byte	*****
20	Color sensor R coefficient	3 byte	***
21	Color sensor G coefficient	3 byte	***
22	Color sensor B coefficient	3 byte	***
23	Reserved	12 byte	** to **
CS	2 Byte	2 byte	37

1: 2: 3: RGB-REVISE setting value

n	n: 0 to 7 (Level n)
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5 to 8: ADDRESS α , β setting

nm	n: 0 to 9 (Address α setting PHASE n)
	m: 0 to 9 (Address β setting PHASE m)

10: Streaking correction

0	OFF
n	n: 1 to 8 (Mode n)

11: Full-screen black display mode

0	OFF (In-phase SUS drive prohibition)
1	MODE1 (In-phase SUS drive permission)

[9] QPM (PULSE METER VALUE)

The command QPM is for acquiring the accumulated pulse count.

Command Format	Effective Operation Modes	Function	Remarks
[QPM]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPM
1	Pulse meter B 1	8 byte	00000000
2	Pulse meter B 2	8 byte	00000000
3	Pulse meter B 3	8 byte	00000000
4	Pulse meter B 4	8 byte	00000000
5	Pulse meter B 5	8 byte	00000000
CS	2 Byte	2 byte	E7

Note:

The minimum for a returned value of the pulse meter for each block (B1-B2) is one million.

A [10] QPD (POWER DOWN LOGS)

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QPD]	Every Time	Output of status	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPD
1	Latest "1st PD" data	1 byte	A
2	Latest "2nd PD" data	1 byte	2
3	Data from the hour meter for the latest PD	8 byte	00010020
4	Second latest "1st PD" data	1 byte	E
5	Second latest "2nd PD" data	1 byte	9
6	Data from the hour meter for the second latest PD	8 byte	00008523
7	Third latest "1st PD" data	1 byte	4
8	Third latest "2nd PD" data	1 byte	3
9	Data from the hour meter for the third latest PD	8 byte	00004335
10	Fourth latest "1st PD" data	1 byte	2
11	Fourth latest "2nd PD" data	1 byte	0
12	Data from the hour meter for the fourth latest PD	8 byte	00000945
13	Fifth latest "1st PD" data	1 byte	4
14	Fifth latest "2nd PD" data	1 byte	0
15	Data from the hour meter for the fifth latest PD	8 byte	00000715
16	Sixth latest "1st PD" data	1 byte	A
17	Sixth latest "2nd PD" data	1 byte	2
18	Data from the hour meter for the sixth latest PD	8 byte	00000552
19	Seventh latest "1st PD" data	1 byte	A
20	Seventh latest "2nd PD" data	1 byte	0
21	Data from the hour meter for the seventh latest PD	8 byte	00000213
22	Eighth latest "1st PD" data	1 byte	D
23	Eighth latest "2nd PD" data	1 byte	0
24	Data from the hour meter for the eighth latest PD	8 byte	000001A7
CS	2 Byte	2 byte	27

• PD data	
0	No PD
2	P-POWER
3	SCAN
4	SCN-5V
6	Y-DCDC
7	Y-SUS
8	Address
A	X-DCDC
B	X-SUS
C	DIGI-DCDC
F	UNKNOWN

[11] QSD (SHUTDOWN LOGS of the Panel Section)

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs of the panel section.

Command Format	Effective Operation Modes	Function	Remarks
[QSD]	Every Time	Output of status	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSD
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the hour meter for the latest SD	8 byte	00752013
4	Second latest SD data	1 byte	5
5	Second latest SD subcategory data	1 byte	0
6	Data from the hour meter for the second latest SD	8 byte	00495204
7	Third latest SD data	1 byte	2
8	Third latest SD subcategory data	1 byte	3
9	Data from the hour meter for the third latest SD	8 byte	00100355
10	Fourth latest SD data	1 byte	2
11	Fourth latest SD subcategory data	1 byte	5
12	Data from the hour meter for the fourth latest SD	8 byte	00075620
13	Fifth latest SD data	1 byte	1
14	Fifth latest SD subcategory data	1 byte	0
15	Data from the hour meter for the fifth latest SD	8 byte	00000852
16	Sixth latest SD data	1 byte	2
17	Sixth latest SD subcategory data	1 byte	2
18	Data from the hour meter for the sixth latest SD	8 byte	00000451
19	Seventh latest SD data	1 byte	0
20	Seventh latest SD subcategory data	1 byte	0
21	Data from the hour meter for the seventh latest SD	8 byte	00000000
22	Eighth latest SD data	1 byte	0
23	Eighth latest SD subcategory data	1 byte	0
24	Data from the hour meter for the eighth latest SD	8 byte	00000000
CS	2 Byte	2 Byte	7D

• SD data

0	No SD
1	SQ_LSI
2	MDU-DEVICE
3	RST2
4	Panel temperature

• SD subcategory (SQ_LSI)

0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (H/M)
6	Version mismatching (H/I)

• SD subcategory (MDU-DEVICE)

0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

• SD subcategory (Panel temperature)

0	No SD-Sub data
1	TEMP1 (high temperature)
2	TEMP1 (low temperature)

[12] QSE (DESTINATION PECULIAR INFORMATION)

Induce it peculiar, individual information is acquired.

• For PDP-LX5090

Command Format	Effective Operation Modes	Function	Remarks
[QSE]	Every time	Output of status	Return data: 3 (ECO) + 12 (DATA) + 2 (CS) = 17 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSE
1	Reserved	4 byte	****
2	DTB HARDWARE version	4 byte	FFFF
3	User setting password	4 byte	1234
CS	Check Sum	2 byte	13

• For PDP-LX5090H

Command Format	Effective Operation Modes	Function	Remarks
[QSE]	Every time	Output of status	Return data: 3 (ECO) + 28 (DATA) + 2 (CS) = 33 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSE
1	Check flag for production	1 byte	E
2	Reserved	3 byte	***
3	DTB HARDWARE version	4 byte	0342
4	Reserved	16 byte	*****
5	User setting password	4 byte	1234
CS	Check Sum	2 byte	13

[13] QMT (STATUS INFORMATION OF MTB/MR SECTION)

Temperature information / FAN rotation state / Room light sensor information on the MTB/MR section is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QMT]	Every time	Output of status	Return data: 3 (ECO) + 8 (DATA) = 11 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QMT
1	A/D value of temperature of MTB/MR section	3 byte	276
2	FAN rotating speed of MTB/MR section (0: STOP, 1: LOW, 2: HIGH)	1 byte	1
3	A/D value of room light sensor	3 byte	009
4	Level of room light sensor (Value: 1 to 5)	1 byte	5

* Returned each block.

[14] QNG (SHUTDOWN INFORMATION OF MTB SECTION)

The command QNG is for acquiring the data from the 8 latest shutdown (SD) logs of the MTB section.

Command Format	Effective Operation Modes	Function	Remarks
[QNG]	Every time	To acquire data on the shutdown (NG) logs of MTB side	Return data: 3 (ECO) + 96 (DATA) + 2 (CS) = 101 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QNG
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the MTB hour meter for the latest SD	7 byte	0752013
4	Reserved	3 byte	000 fixed
5	Second latest SD data	1 byte	5
6	Second latest SD subcategory data	1 byte	1
7	Data from the MTB hour meter for the second latest SD	7 byte	0495204
8	Reserved	3 byte	000 fixed
9	Third latest SD data	1 byte	A
10	Third latest SD subcategory data	1 byte	2
11	Data from the MTB hour meter for the third latest SD	7 byte	0365814
12	Reserved	3 byte	000 fixed
13	Fourth latest SD data	1 byte	5
14	Fourth latest SD subcategory data	1 byte	0
15	Data from the MTB hour meter for the fourth latest SD	7 byte	0256612
16	Reserved	3 byte	000 fixed
17	Fifth latest SD data	1 byte	7
18	Fifth latest SD subcategory data	1 byte	2
19	Data from the MTB hour meter for the fifth latest SD	7 byte	0105628
20	Reserved	3 byte	000 fixed
21	Sixth latest SD data	1 byte	B
22	Sixth latest SD subcategory data	1 byte	0
23	Data from the MTB hour meter for the sixth latest SD	7 byte	0003009
24	Reserved	3 byte	000 fixed
25	Seventh latest SD data	1 byte	C
26	Seventh latest SD subcategory data	1 byte	1
27	Data from the MTB hour meter for the seventh latest SD	7 byte	00002A9
28	Reserved	3 byte	000 fixed
29	Eighth latest SD data	1 byte	C
30	Eighth latest SD subcategory data	1 byte	4
31	Data from the MTB hour meter for the eighth latest SD	7 byte	0000012
32	Reserved	3 byte	000 fixed
CS	2 Byte	2 Byte	7D

< SD Information No. >

Frequency *	Shutdown Factor	Remarks (Operation)
1	Failure of Power Supply of VCC	Immediately Shutdown
5	Shutdown signal from D-Amp. / short-circuit of speaker terminal	Go to No. 5 Subcategory Information
6	Failure of communication with Module microcomputer	Immediately Shutdown
7	Failure in 3-wire serial communication of Main microcomputer	Go to No. 7 Subcategory Information
8	Failure in IIC communication of Main microcomputer	Go to No. 8 Subcategory Information
9	Failure in Communication of Main microcomputer	Immediately Shutdown
10(A)	Abnormally in FAN	Go to No. 10 Subcategory Information
11(B)	Abnormally in high temperature	Immediately Shutdown
12(C)	Failure in Digital Tuner	Go to No. 12 Subcategory Information
13(D)	Failure in Power Supply at MTB section	Go to No. 13 Subcategory Information
15(F)	Failure in Main EEPROM	Immediately Shutdown

*: Indicates the frequency of Blue LED flashing when the shutdown is occurred.

< No. 5 Subcategory Information on "Shutdown signal from D-Amp./short-circuit of speaker terminal" >

Value	Shutdown Factor	Remarks (Operation)
1	A_NG	Shutdown after 5 seconds warning
2	OTW	Shutdown after 5 seconds warning

< No. 10 Subcategory Information on "Abnormally in FAN" >

Value	Shutdown Factor	Remarks (Operation)
1	FAN 1	Immediately Shutdown
2	FAN 2	Immediately Shutdown

< No. 12 Subcategory Information on "Failure in Digital Tuner" >

Value	Shutdown Factor	Remarks (Operation)
1	Starting error of the digital tuner	Communication stop
2	Communication error with the digital tuner	
3	DTB device error	
4	Abnormmally in BCM7038	
5	Fugue	
6	Audio Chip	
7	Tuner 1/Tuner 1 or 2	
8	Card I/F IC	
9	VBI Slicer	
B	Flash	
C	EEPROM	
D	EEPROM	
F	DTV Antenna	
G	Home Gallery	
I	Application	
J	DEMOD(US)/COFDEM(EU)	
K	Tuner 2	
L	S2DEMOD	
M	LNB	

< No. 7 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Communication error of IF microcomputer	Immediately Shutdown
2	Communication error of ARIA	Immediately Shutdown

< No. 8 Subcategory Information on "Failure in IIC communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Tuner 1	Immediately Shutdown
2	MSP/MAP	Immediately Shutdown
3	AV-Switch	Immediately Shutdown
4	RGB-Switch	Immediately Shutdown
5	Main VDEC	Immediately Shutdown
6	VDEC-SDRAM	Immediately Shutdown
7	AD/PLL	Immediately Shutdown
8	HDMI	Immediately Shutdown
9	DisplayPortTx	Immediately Shutdown
B	US-MAP	Immediately Shutdown
C	GCR	Immediately Shutdown
D	COFDEM	Immediately Shutdown

< No. 13 Subcategory Information on "Failure in Power supply at MTB section" >

Value	Shutdown Factor	Remarks (Operation)
1	RST 2	Immediately Shutdown
2	RST 4	Immediately Shutdown

[15] QSI (INPUT SIGNAL DATA)

The command QSI is for acquiring all data on input video signals.

Command Format	Effective Operation Modes	Function	Remarks
[QSI]	Every Time	Output of status	Return data: 3 (ECO) + 66 (DATA) + 2 (CS) = 71 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QSI
1	Type of drive sequence (Note)	4 Byte	60VS
2	Type of ABL adjustment table (Note)	1 Byte	1
3	Type of WB adjustment table (Note)	1 Byte	1
4	Reserved	4 Byte	****
5	Total value of PRH	4 Byte	0256
6	Total value of PGH	4 Byte	0256
7	Total value of PBH	4 Byte	0256
8	Reserved	4 Byte	****
9	Total value of PRL	4 Byte	0512
10	Total value of PGL	4 Byte	0512
11	Total value of PBL	4 Byte	0512
12	Total value of ABL	3 Byte	128
13	V frequency distinction	4 Byte	6002
14	Reserved	4 Byte	****
15	APL acquiring data	4 Byte	1023
16	Number of SUS pulses	4 Byte	0457
17	Detection status of still picture	1 Byte	1
18	Detection status of cracking in the panel	1 Byte	1
19	Detection status of SCAN protection	1 Byte	1
20	Detection status of external protection	1 Byte	1
21	Transition of protection operations	1 Byte	0
22	Address emergency status	1 Byte	1
23	Detection status of reset operation	1 Byte	1
24	In-phase SUS mode status	1 Byte	1
25	Reserved	1 Byte	1
CS	2 Byte	2 Byte	27

18 to 20: Each protection function

0	Setting: OFF
1	Setting: ON (during wait)
2	Setting: ON (during operation)

21: Transition of protection operations

0	Upper limit status for brightness
1	Brightness being reduced
2	Lower limit status for brightness
3	Brightness being increased

22: Address emergency status

0	Normal status
1	Emergency status

23: Reset operation status

A	All reset operation
2	Interlace 1/2 reset operation
4	Interlace 1/4 reset operation
L	Reset less operation (specifications operation)

24: In-phase SUS mode status

0	Normal status
1	In-phase SUS mode status
2	Assist status at the cancellation

Note: The types of drive sequence and ABL/WB table are output as the same data as QPW.

A [16] DRV (PANEL DRIVE-POWER ON/OFF)

Panel drive-power ON/OFF (drive ON/OFF) is controllable.

Command Format	Operation		Remarks
	Effective Operation Modes	Function	
[DRV+S00]	Every time	DRIVE OFF	If a command is issued in Standby mode, and the unit is left unoperated for more than 10 seconds, the command will become void.
[DRV+S01]	Every time	DRIVE ON (default)	

Note: The function of the DRIVE OFF key on the remote control unit for servicing is the same as that of the DRVS00 command.
(A function equivalent to that of the DRVS01 command is not provided for the remote control unit for servicing.)

[17] FAY/FAN (ADJUSTMENT COMMANDS PERMISSION/PROHIBITION)

The commands FAY/FAN are for prohibiting/permitting panel/MTB-adjustment commands.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAY]	Normal operation mode while the power is on	Adjustment command is valid.	For details, refer to the section "6.1 [3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE".
[FAN]	During FAY	Adjustment command is invalid.	

[18] FAJ/UAJ/CBU/BCP (BACKUP FUNCTION FOR ADJUSTMENT VALUE)

When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAJ]	During FAY	To make the status of the EEPROM on the DIGITAL Assy "adjustment completed" and copy the data to the EEPROM for backup	This takes at least 350 msec.
[UAJ]		To make the status of the EEPROM on the DIGITAL Assy "adjustment not completed"	Only the status is changed, and the real data are not erased.
[CBU]		To make the status of the EEPROM on for backup "adjustment not completed"	Only the status is changed, and the real data are not erased. However, if the status of the EEPROM on the DIGITAL Assy is "adjustment completed," the data in the EEPROM of the DIGITAL Assy will be copied to the EEPROM for backup upon POF.
[BCP]		To copy the backup data from the EEPROM for backup to the EEPROM on the DIGITAL Assy	

6. SERVICE FACTORY MODE

6.1 OUTLINE OF THE SERVICE FACTORY MODE

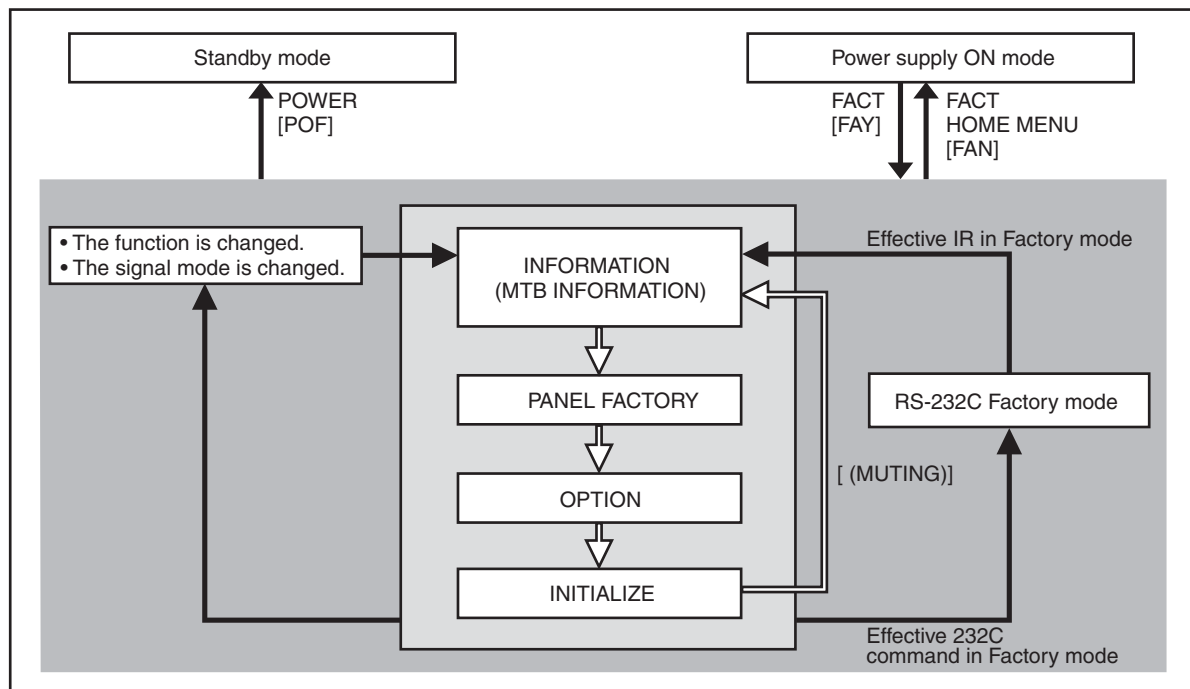
Operations during Service Factory mode are described here.

Before entering Factory mode of the PDP, make sure that the "HD AV Converter" setting on the PDP menu is set to "Disable." If it is set to "Enable," change it to "Disable" then enter Factory mode.

To confirm the "HD AV Converter" setting on the PDP menu, proceed as follows:
Select HOME MENU, Option, then HD AV Converter in HDMI Control Setting.

Note: If "HD AV Converter" is set to "Enable," the video/audio signals will not be displayed/output even if external equipment is connected via input connectors other than INPUT 4 of the PDP.

[1] SERVICE FACTORY MODE TRANSITION CHART



[2] HOW TO ENTER/EXIT SERVICE FACTORY MODE

■ How to enter Service Factory Mode

By using a PDP service remote control)

- PDP service remote control : Press [FACTORY] key.

By issuing RS-232C commands)

- During normal Standby mode : Issue [PON] then [FAY].
- During normal operation mode : Issue [FAY].

■ How to exit Service Factory Mode

By using a PDP service remote control)

- PDP service remote control : press [FACTORY] key.
- Supplied remote control unit : press [HOME MENU] key.

By issuing RS-232C commands)

- Issue [FAN].

■ How to enter Service Factory Mode by Using the supplied Remote Control Unit

- From this model, can not enter the Service Factory Mode by operating the supplied remote control unit keys.

[3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE

■ Functions whose setting are set to OFF

The settings for the following functions are set to OFF when Service Factory mode is entered (including when the "FAY" command is received) :

Function	Remarks
2-Screen Operation	Input function set on the main side is selected.
FREEZE	
Auto size, Side Mask	It is not performed during Factory mode.
ORBITER, Mask control	Central value operation (ORBITER)
Sleep Timer	Cancel the operation.
Room light sensor	Turn off the detecting operation (Setting data will be retained.)
Blue LED dimmer	Turn off the operation (Setting data will be retained.)
Setting of Parental Control	When this is turned off, the block of the screen is released.
Power Control	Turn off the operation (However, the setting maintains it.)
Image Position	Central value operation

Note: Enter the factory after cancelling ACI because the ACI operation setting OFF and not done.

■ User data

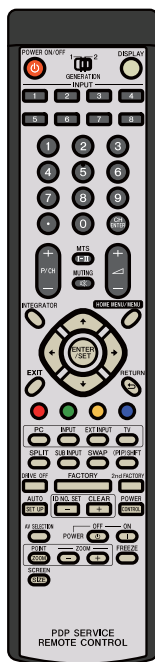
User data will be treated as follows :

- User data on picture-quality and audio-quality adjustments are not reflected, and factory-preset data are output (user data will be retained in memory). When the unit enters Service Factory mode, the current audio-quality adjustment data will be still be retained in memory.
- User-setting data will be applied to the various settings (items on the menus), signal formats, and the items that are associated with path change (HDMI settings, etc.).
- Data on screen (i.e., screen position; meaning clock dividers, and not including data on screen size). Are reset to the default values (data stored in memory will be retained).
Screen size will be retained.

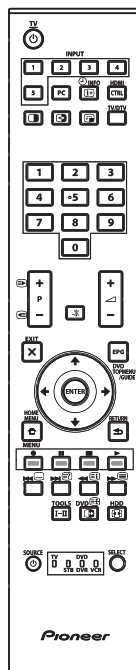
[4] REMOTE CONTROL CODE IN SERVICE FACTORY MODE

Remote Control Keys	Basic Functions	Remarks
MUTING	Switching the main items.	Shifting to the next main item (top).
↓ (DOWN)	Switching the subtitled items.	Shifting downward to the next subtitled item.
↑ (UP)	Switching the subtitled items.	Shifting upward to the next upper layer.
← (LEFT)	Decreasing the adjustment value.	Decreasing the adjustment value.
→ (RIGHT)	Increasing the adjustment value.	Increasing the adjustment value.
ENTER/SET	Switching the layers.	Shifting downward or upward to the next lower or upper layer.
INPUT	Selecting INPUT.	Shifting the INPUT to the next function.
INPUTxx	Selecting INPUT.	Switching the INPUT to xx. (xx=1 to 7 etc)
CH+/P+	Increasing the channel number.	
CH-/P-	Decreasing the channel number.	
Numeric Keys	Function: TV	Function: TV (previously selected channel number is selected)
POWER	Power OFF.	Turning the power off.
FACTORY	Factory OFF (Factory mode)	In Factory mode, turning Factory mode off.
	Factory ON (Non-Factory mode).	In Non-Factory mode, turn Factory mode on.
HOME MENU	Menu ON.	In Factory mode, turn Factory mode off.
VOLUME+	Volume UP.	Increasing 10 the adjustment value. (PANEL FACTORY)
VOLUME-	Volume DOWN.	Decreasing 10 the adjustment value. (PANEL FACTORY)
DRIVE OFF (Note1)	Drive Mode OFF.	Turning Drive mode off.
INTEGRATOR	INTEGRATOR MENU ON.	Enter INTEGRATOR MODE.

(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid.
Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.



PDP service
remote control



Supplied
remote control

A [5] PDP SERVICE REMOTE CONTROL

- The keys labeled with the same names on the service remote control unit have the same functions as those of the supplied remote control unit. (See "2.3 PANEL FACILITIES.")
- For the keys not provided on the supplied remote control unit, see the explanations below:

B

C

D

E

F

INTEGRATOR

Press this key to enter Integrator mode.

SUB INPUT

Not used with this model.

DRIVE OFF

Press this key to turn off the panel drive.
For details on how to cancel this command, see the explanation for the DRV command.

AUTO SETUP

Use this key for automatic setup, such as the display position setting when an analog PC signal is input.

ID NO. SET

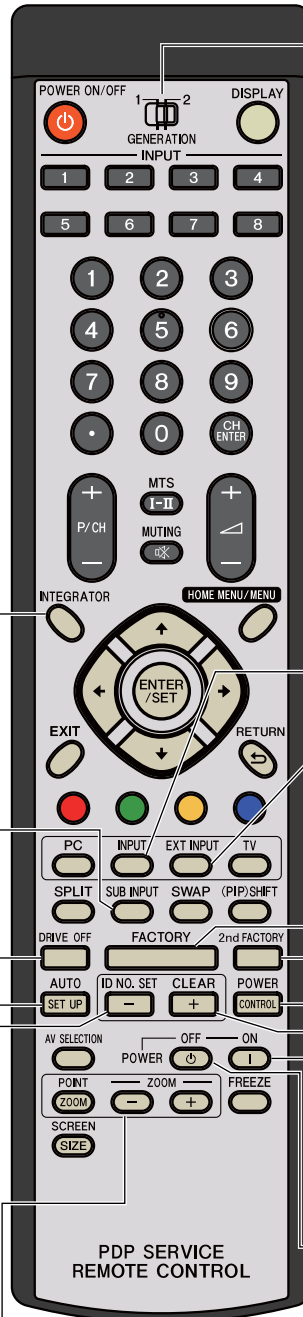
Not used with this model.

POINT ZOOM

Not used with this model.

ZOOM +/-

Not used with this model.



GENERATION switch for remote control codes

This switch selects the generation of remote control codes to be transmitted:

- 1: The old-generation codes are transmitted.
 - 2: The new-generation codes are transmitted.
- With this generation plasma display, set the switch to 2.

INPUT

Press this key to cyclically change the input source.

EXT INPUT

Press this key to cyclically change only the external input source.

FACTORY

Press this key to enter Factory mode.

2nd FACTORY

Not used with this model.

POWER CONTROL

Not used with this model.

CLEAR

Not used with this model.

POWER ON

Press this key to turn on the unit.
This key cannot turn the unit off.

POWER OFF

Press this key to turn off the unit.
This key cannot turn the unit on.

[6] FACTORY HIERARCHICAL TABLE

Large Item			Variable / Adjustment Range	Remarks
	Middle Item			
		Small Item		
6.2 [1] INFORMATION				
	[1-1] VERSION (1)			
	[1-2] VERSION (2)			
	[1-3] MAIN NG	CLEAR <=>	NO <=> YES	
	[1-4] TEMPERATURE			
	[1-5] HOUR METER	CLEAR <=>	NO <=> YES	
	[1-6] HDMI SIGNAL INFO 1			
	[1-7] HDMI SIGNAL INFO 2			
	[1-8] VDEC SIGNAL INFO 1			
	[1-9] VDEC SIGNAL INFO 2			
6.2 [2] PANEL FACTORY (+)				
	[2-1] PANEL INFORMATION			
	[2-2] PANEL WORKS			
	[2-3] POWER DOWN			
	[2-4] SHUT DOWN			
	[2-5] PANEL-1 ADJ (+)	VOL SUS <=>	000 to 255	
		VOL OFFSET <=>	000 to 255	
		VOL RST P <=>	000 to 255	
		VOL XPOFS1 <=>	000 to 255	
		VOL XPOFS2 <=>	000 to 255	
		VOL YKNOFS1 D <=>	000 to 255	
		VOL YKNOFS3 D <=>	000 to 255	
		VOL YKNOFS4 D <=>	000 to 255	
		VOL YKNOFSA D <=>	000 to 255	
		RESET1ST_KSB <=>	112 to 144	
		RESET2ND_KSB <=>	112 to 144	
		YSTL_1SF_KSB <=>	112 to 144	
		YSTL_1SF_HZ <=>	112 to 144	
		XSUS_1ST_B <=>	112 to 144	
		YSUS_2ND_B <=>	112 to 144	
		XSUS_3RD_B <=>	112 to 144	
		YSUS_B <=>	112 to 144	
		XSUS_B <=>	112 to 144	
		YSTL_KSB <=>	112 to 144	
		YSTL_HZ <=>	112 to 144	
		YSTL_2SF_KSB <=>	112 to 144	
		YSTL_2SF_HZ <=>	112 to 144	
		YSTL_FMR_KSB <=>	112 to 144	
		SCAN ADRS ADJ <=>	112 to 144	
		SUS FREQ <=>	<=> MODE 1 to MODE 8 <=>	
	[2-6] PANEL-2 ADJ (+)	R-HIGH <=>	000 to 999	
		G-HIGH <=>	000 to 999	
		B-HIGH <=>	000 to 999	
		R-LOW <=>	000 to 999	
		G-LOW <=>	000 to 999	
		B-LOW <=>	000 to 999	
		ABL <=>	000 to 255	
	[2-7] PANEL FUNCTION (+)	R-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		G-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		B-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		ADDRESS L1 <=>	<=> PH0 to PH9 <=>	
		ADDRESS L2 <=>	<=> PH0 to PH9 <=>	
		ADDRESS L3 <=>	<=> PH0 to PH9<=>	
		ADDRESS L4 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U1 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U2 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U3 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U4 <=>	<=> PH0 to PH9<=>	
		STK MODE <=>	OFF <=> MODE1 to MODE8 <=>	
		FULL BLACK <=>	MODE1 <=> OFF	
		PANEL RX <=>	000 to 999	
		PANEL RY <=>	000 to 999	
		PANEL GX <=>	000 to 999	
		PANEL GY <=>	000 to 999	
		PANEL BX <=>	000 to 999	
		PANEL BY <=>	000 to 999	
		CLS R <=>	000 to 255	
		CLS G <=>	000 to 255	
		CLS B <=>	000 to 255	

A

B

C

D

E

F

Large Item			Variable / Adjustment Range	Remarks
	Middle Item	Small Item		
6.2 [2] PANEL FACTORY (+)				
	[2-8] ETC. (+)	BACKUP DATA <=>	NO OPRT <=> TRANSFER/ERR	
		DIGITAL EEPROM <=>	NO OPRT <=> DELETE/REPAIR	
		PD INFO. <=>	NO OPRT <=> CLEAR	
		SD INFO. <=>	NO OPRT <=> CLEAR	
		HR-MTR INFO. <=>	NO OPRT <=> CLEAR	
		PM/B1-B5 <=>	NO OPRT <=> CLEAR	
		P COUNT INFO. <=>	NO OPRT <=> CLEAR	
		MAX TEMP. <=>	NO OPRT <=> CLEAR	
		MIRROR <=>	OFF <=> MODE1 to MODE3 <=>	
		CLS <=>	OFF <=> ON	
	[2-9] RASTER MASK SETUP (+)	MASK OFF		
		RST MASK 01 <=>	<=> 50V <=> 60V <=> 60P	
		• • •	<=> 72V <=> 75V1 <=> 75V2 <=>	
		RST MASK 25 <=>		
	[2-10] PATTERN MASK SETUP (+)	MASK OFF		
		PTN MASK 01 <=>	<=> 50V <=> 60V <=> 60P	
		• • •	<=> 72V <=> 75V1 <=> 75V2 <=>	
		PTN MASK 49 <=>		
	[2-11] COMBI MASK SETUP (+)	MASK OFF		
		CMB MASK 01 <=>	<=> 50V <=> 60V <=> 60P	
		• • •	<=> 72V <=> 75V1 <=> 75V2 <=>	
		CMB MASK 17 <=>		
6.2 [3] OPTION				
	[3-1] CH PRESET <=>		DISABLE <=> ENABLE	Exclusively used for production line
	[3-2] Digital AFT <=>		DISABLE <=> ENABLE	Exclusively used for production line (*1)
	[3-3] SYNC DET (+)			for the technical analysis
	[3-4] CTI (+)			for the technical analysis
6.2 [4] INITIALIZE				
	[4-1] SIDE MASK LEVEL (+)	SIDE MASK LEVEL <=>		
	[4-2] FINAL SETUP (+)	DATA RESET <=>	NO <=> YES	
	[4-3] DTB SERVICE MODE (+)	MODE SHIFT <=>	NO <=> YES	for the technical analysis (*1, *2)
	[4-4] Wide XGA AUTO <=>		DISABLE <=> ENABLE	for the technical analysis
	[4-5] AUTO ADJUSTMENT (+)	AUTO ADJUST. <=>	NO <=> YES	

(*1): PDP-LX5090H only

(*2): Exit the Service Factory Menu and enter the Digital Tuner Service menu.

[7] INDICATIONS IN SERVICE FACTORY MODE

	1	5	10	15	20	25	30	35	40																																
1		INFORMATION										AV1-10501-PLV-EHB																													
		VERSION(1)																																							
5		I / F										- 07A										01A										Main-items									
		MAIN										- 02EH 1										= 01E																			
		MULTI AGC										1 078 A																													
		PRS										- 02A										01A																			
		PIC										- 02A																													
10		DTUNER										- 02E										01E										Subtitled-items									
		MODULE										- 06A										01A																			
		SEQ PRS										- 03Y										01A																			
15		PANEL INFO										XXXXXXXXXX																													
16																																									

Main-item indications

	20	25	30	35	40
	AV1-10501-PLV-EHB				

① ② ③ ④

① Input function

Input Functions	OSD
AV 1 to 5	AV 1 to 5
Terrestrial Wave (Analog)	AIR
Terrestrial Wave (Digital)	ARD
Satellite digital broadcasting (PDP-LX5090H only)	SAT
Cable (Digital)	CBD
Home Media Gallery	HMG
PC	PC

② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

③ Color system and Signal type

Color System and Signal Type	OSD	
	At Composite Input	At S-connector Input
NTSC	NTV	NTS
PAL	PLV	PLS
PAL M	PMV	PMS
PAL N	PNV	PNS
PAL 60	P6V	P6S
SECAM	SCV	SCS
4.43 NTSC	4NV	4NS
BLACK/WHITE	BWV	BWS
Y/CB/CR	CBR	
Y/PB/PR	PBR	
RGB	RGB	
Digital Video signal	DIG	

④ Option (Destination, Panel Generation, etc.)

Options	OSD
PDP-LX5090/6090H	EHB
PDP-LX5090/6090D	ETB

② SIG Mode and Screen size (by User is displayed)

1st and 2nd characters : Resolution of the input signal

3rd and 4th characters : Refresh rate of the input signal

5th character : Selection of the screen size

■ Input signal mode table for video signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
10	50	SDTV*625i	50.000	15.750
	60	SDTV*525i	60.000	15.750
20	50	SDTV*625p	50.000	31.500
	60	SDTV*525p	60.000	31.500
30	50	HDTV*1125i	50.000	33.750
	60	HDTV*1125i	60.000	33.750
40	50	HDTV*750p	50.000	45.000
	60	HDTV*750p	60.000	45.000
50	24	HDTV*1125p	24.000	27.000
	50	HDTV*1125p	50.000	56.250
	60	HDTV*1125p	60.000	67.500

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Input signal mode table for PC signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
C1	70	720 x 400	70.087	31.469
C2	60	640 x 480	59.940	31.469
C4	60	800 x 600	60.317	37.879
C6	60	1280 x 720	60.000	44.800
C7	60	1024 x 768	60.004	48.363
C9	60	1360 x 768	60.015	47.712
D6	60	1280 x 1024	60.000	64.000

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Current selection of the screen size

5th Character	GUI Notation	VIDEO	PC	Remarks
0	DOT BY DOT	●	—	
1	4:3	●	●	
2	FULL	●	●	
3	ZOOM	●	—	
4	CINEMA	●	—	
5	WIDE	●	—	
6	FULL 14:9	●	—	
7	CINEMA 14:9	●	—	
9	WIDE1	●	—	
A	WIDE2	●	—	

●: supported, —: unsupported

6.2 DETAILS OF FACTORY MENU

[1] INFORMATION

■ Operation items

No.	Function	Content	RS-232C Command
[1-1]	VERSION (1)	The Flash memory versions for each device are displayed.	QS1
[1-2]	VERSION (2)	The Flash memory versions for each device are displayed.	QSE
[1-3]	MAIN NG	The Shutdown NG information and Event Times in the MTB section are displayed.	QNG
[1-4]	TEMPERATURE	The present temperature and the FAN rotating status are displayed.	—
[1-5]	HOUR METER	The accumulation power ON count of the panel is displayed.	—
[1-6]	HDMI SIGNAL INFO 1	The status registers of HDMI receiver are displayed with hexadecimal.	—
[1-7]	HDMI SIGNAL INFO 2		
[1-8]	VDEC SIGNAL INFO 1	Display the signal information input to VDEC.	—
[1-9]	VDEC SIGNAL INFO 2		

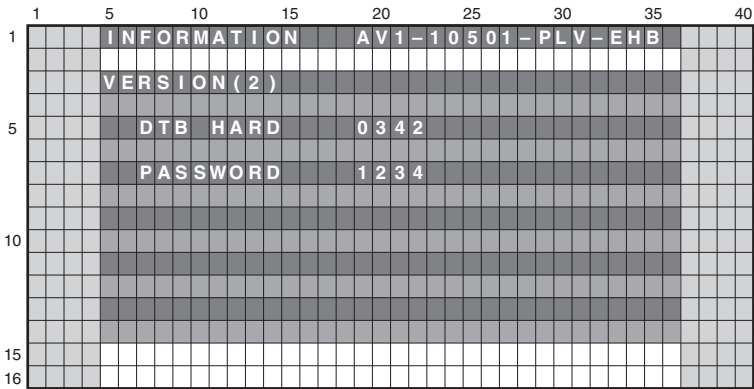
[1-1] VERSION (1)

1	5	10	15	20	25	30	35	40
1								
5								
10								
15								
16								

Display Item	Meaning	Display Example (Program)	Display Example (Boot)
I/F	I/F microcomputer	-07A	01A
MAIN	Main microcomputer	-02EH_1	=01E
MULTI AGC	AGC data of Multi processor	1078-A	
MULTI PRS	Program of Multi processor	-02A	01A
MULTI PIC	Picture quality data of Multi processor	-02A	
DTUNER (*1)	Software program of the Digital tuner	-02E	01E
MODULE	Module microcomputer	-06A	01A
SEQ PRS	Program of Sequence processor	-03Y	01A
Display Item	Meaning		
PANEL INFO	It displays the generation of the panel, inchage and the type of the panel. For details on display values and settings, see "10: Panel Information" in "5.9 [1] QS1 (PANEL STATUS)."		

(*1): PDP-LX5090H only

A [1-2] VERSION (2)



Display Item	Meaning	Display Example
DTB HARD	DTB Hardware Version	0342
PASSWORD	User setting password	1234

[1-3] MAIN NG

	1		5		10		15		20		25		30		35		40
1																	
								</									

MTB side's Shutdown NG information

Error Display: MAIN	Error Display: SUB	Cause of Shutdown
AUDIO		Short-circuit of the speaker terminal or failure of audio amplifier.
	AUDIO	Short-circuit of the speaker terminal or failure signal of audio amplifier (MAIN) (PDP-LX5090H only)
	OTW	Short-circuit of the speaker terminal or failure signal of audio amplifier (IF) (PDP-LX5090H only)
MODULE	----	Serial communication error of Module microcomputer.
MA-3L		3-wire Serial Communication error of Main microcomputer.
	IF	Communication error of IF microcomputer
	MULTI	Main communication error of Multi Processor
MA-IIC		IIC Communication error of Main microcomputer
	FE1	Tuner 1
	MSPMAP	MSP/MAP
	AV-SW	AV Switch
	RGB-SW	RGB Switch
	VDEC	Main VDEC
	SDRAM	VDEC - SDRAM
	ADC	AD/PLL
	HDMI	HDMI
	DEMOD	COFDEM (PDP-LX5090 only)
MAIN	----	Communication error of Main microcomputer
FAN		FAN abnormal
	FAN2	FAN2 abnormal stop
TEMP2	----	Abnormally high temperature
DTUNER		Failure in Digital Tuner
	PS/RST	DTB Starting error
	RETRY	Communication error with DTB (PDP-LX5090H only)
	DEVICE	DTB device error (PDP-LX5090H only)
	DE-FE	DTB device error (Tuner 1) (PDP-LX5090H only)
	D-ANT	Abnormally in DTB antenna
	DTVAPP	DTB device error (Application) (PDP-LX5090H only)
	DEMOD	DTB device error (COFDEM) (PDP-LX5090H only)
	DE-FES	DTB device error (Tuner S2) (PDP-LX5090H only)
	DEMONS	DTB device error (S2DEMOD) (PDP-LX5090H only)
	DE-LNB	DTB device error (LNB) (PDP-LX5090H only)
RST-MA		Abnormally in MTB power
	M-DCDC	Abnormally in ASIC power (DC-DC)
	RELAY	Power decrease of RELAY power
MA-EEP	----	Main EEPROM communication error

[1-4] TEMPERATURE

A present temperature and the FAN rotation are displayed.

If either [←] key or [→] key is pressed, the display data is refreshed.

	1			5				10				15				20				25				30				35			40		
1				INFORMATION												AV1-10501-PLV-EHB																	
				TEMPERATURE																													
				TEMP1										:		+40.2 (C)																	
5				TEMP2										:		+40.2 (C) 1023 (A/D)																	
				FAN1										:		LOW																	
				FAN2										:		128 (D/A)																	
10				B-SENSOR										:		1023 (A/D)																	
15																																	
16																																	

Display Item	Meaning
TEMP1	The temperature of the sensor on the panel side is displayed by the Centigrade (C).
TEMP2	The temperature conversion display is done with 10 bit the A/D input value of IF microcomputer. It is displayed by both the Centigrade (C) and 8 bit A/D value. Note: When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.
FAN1	The value of the FAN rotating state is displayed. STOP: stopped, LOW: slow speed, HIGH: high speed.
FAN2	The value of the rotation state of FAN is displayed. During a rotation of FAN, 8bit D/A value output from IF microcomputer is displayed. It is displayed with OFF during a stop.
B-SENSOR	The value that indicated the degree of brightness input into an Room light sensor is displayed. AD value when the output of the Room light sensor was input into IF microcomputer is displayed.

A [1-5] HOUR METER

1	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

B

Display Item	Meaning	Display Example
PANEL	HOURL METER of the panel	00151H 21M
P-COUNT	Accumulation power ON count of the panel	00000095 TIMES
SERIAL	Serial number of the product	ABCDEFGHIJKLMNO

C

• MTB HOUR METER

In HOUR METER screen on Factory Menu, press the [ENTER/SET] key, and then it moves to the screen to clear MTB HOUR METER. (MTB HOUR METER is cleared only.)

D

1	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

E

Operation:

- Even if [←] key or [→] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
- Selecting <NO> then pressing the ENTER/SET key will return the screen to the next higher layer, without doing anything.
- Selecting <YES> then holding the ENTER/SET key pressed for 5 seconds will clear the HOUR METER (HOUR METER while the MAIN NG screen is displayed) data that are managed in MTB then return the screen to the next higher layer.

F

[1-6] HDMI SIGNAL INFO 1

	1	5	10	15	20	25	30	35	40				
1			INFORMATION					AV1-30601-DIG-EHB					
			HDMI SIGNAL INFO 1										
5			PWR5V:ACTIVE				MODE:HDMI						
			VSYNC:ACTIVE				BIST:--						
			CKDT:ACTIVE				NVAL:0006144						
			SCDT:ACTIVE				CTSVAL:0074250						
			DCRPT:ACTIVE				AKSV:B70361F714						
10			AUTH:ACTIVE				BKSV:511EF21ACD						
						ITCNT:NO							
						EXTCOL:xvYCC709							
						RGB QR:DEFAULT							
						PIXDEP:12bit							
15													
16													

Displays the input signal information of HDMI terminal

Display Item	Meaning
PWR5V	+5 V power detection (18 pin of HDMI terminal)
VSYNC	VSYNC detection
CKDT	Clock detection
SCDT	SYNC detection
DCRPT	HDCP decryption status
AUTHEN	HDCP authentication status
MODE	HDMI mode status
BIST	HDCP Key status (Always display it with "--".)
NVAL	N value
CTSVAL	CTS value
AKSV	Shadow AKSV value
BKSV	Shadow BKSV value
ITCNT	IT content (AVI info)
EXTCOL	Extension calorimetry (AVI info)
RGV QR	RGB range (AVI info)
PIXDEP	Number of pixel/bit

[1-7] HDMI SIGNAL INFO 2

1	5	10	15	20	25	30	35	40
1								
5								
10								
15								
16								

Displays input signal status of HDMI terminal

Display Item	Meaning
H RES	Number of horizontal pixels
V RES	Number of vertical lines
H DE	Number of effectively horizontal pixels
V DE	Number of effectively vertical lines
INTRL	Interlace (=INT) or progressive (=PRG)
V POL	VSYNC polarity
H POL	HSYNC polarity
AUDIO (first line)	Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1
AUDIO (second line)	Audio format PCM (PCM) or No PCM (no PCM)
AUDIO (third line)	Quantization bit
COL SP	Color space (AVI Info) 422 or 444 or RGB *2
COLMET	Calorimetry (AVI Info)
ASPECT	Aspect (AVI Info)
ACTIVE	Active format (AVI Info)
V FMT	Video format (AVI Info)
PIX RP	Pixel count
SOURCE (first line)	Vendor name of the emission device
SOURCE (second line)	Model name of the emission device

*1: Confirm if this item is displayed when the audio is not outputted.

*2: If may not match to the state of source devices when the color is abnormal.

Display of HDMI FACTORY and correspondence of resolution

Please confirm the following items when the picture doesn't come out.

Input Signal	FACTORY Display				
	H RES	V RES	H DE	V DE	V FMT
480i (525i)@60	858	262 or 263	720	240	720x480i@60
480p (525p)@60	858	525	720	480	720x480p@60
1080i (1125i)@60	2200	562 or 563	1920	540	1920x1080i@60
720p (750p)@60	1650	750	1280	720	1280x720p@60
1080p (1125p)@60	2200	1125	1920	1080	1920x1080p@60
1080p (1125p)@24	2750	1125	1920	1080	1920x1080p@24
576i (625i)@50	864	312 or 313	720	288	720x576i@50
576p (625p)@50	864	625	720	576	720x576p@50
1080i (1125i)@50	2640	562 or 563	1920	540	1920x1080i@50
720p (750p)@50	1980	750	1280	720	1280x720p@50
1080p (1125p)@50	2640	1125	1920	1080	1920x1080p@50

[1-8] VDEC SIGNAL INFO 1

1	5	10	15	20	25	30	35	40												
1	INFORMATION										AV1-10501-PLV-EHB									
	VDEC SIGNAL INFO 1																			
5	MVDEC -000:00										SVDEC -400:00									
	-001:00										-401:00									
	-094:00										-494:00									
	-095:00										-495:00									
	-096:00										-496:00									
10	-098:00										-----									
	-1B5:00										-5B5:00									
	-1B6:00										-5B6:00									
	-1B7:00										-5B7:00									
15																				
16																				

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	000h	400h	Line system distinction result
	001h	401h	VTR distinction result
	094h	494h	Slot number
	095h	495h	Color system distinction result
	096h	496h	ACC coefficient
	098h	---	3D YC flag
	1B5h	5B5h	MV detection 1
	1B6h	5B6h	MV detection 2
	1B7h	5B7h	MV detection 3

[1-9] VDEC SIGNAL INFO 2

1	5	10	15	20	25	30	35	40												
1	INFORMATION										AV1-10501-PLV-EHB									
	VDEC SIGNAL INFO 2																			
5	MVDEC -205:00										SVDEC -605:00									
	-208:00										-608:00									
	-20B:00										-60B:00									
	-20C:00										-60C:00									
	-20D:00										-60D:00									
10																				
15																				
16																				

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	205h	605h	CC detection 1
	208h	608h	CC detection 2
	20Bh	60Bh	CC-CRI detection
	20Ch	60Ch	XDS content advisory 0
	20Dh	60Dh	XDS content advisory 1

[2] PANEL FACTORY (+)

■ Operation Items

This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

No.	Indication	Description of functions
[2-1]	PANEL INFORMATION	Data, such as the version of the microcomputer of the panel, product serial number, and statuses of EEPROM for adjustment values for the main unit and for backup, are displayed.
[2-2]	PANEL WORKS	Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed.
[2-3]	POWER DOWN	The power-down history is displayed.
[2-4]	SHUT DOWN	The shutdown history of the panel section is displayed.
[2-5]	PANEL-1 ADJ (+)	Settings of the driving voltage and AM radio prevention can be performed.
[2-6]	PANEL-2 ADJ (+)	White balance and ABL (power consumption) for the panel can be set.
[2-7]	PANEL FUNCTION (+)	Setting of the panel-degradation correction-level and various functions are displayed.
[2-8]	ETC. (+)	Copying of backup data, clearing of various settings, and changing of settings for functions for which setting data are not stored upon last update are performed.
[2-9]	RASTER MASK SETUP (+)	The mask indication (RASTER) can be set and indicated.
[2-10]	PATTERN MASK SETUP (+)	The mask indication (PATTERN) can be set and indicated.
[2-11]	COMBI MASK SETUP (+)	The mask indication (COMBI) can be set and indicated.

■ Details of indications in each layer

[2-1] PANEL INFORMATION

- Data, such as the version of the microcomputer of the panel, product serial number, and statuses of digital EEPROM for storing the adjustment values and for backup EEPROM, are displayed. No other layers are nested below this layer, and there are no adjustment items.

	1	5	10	15	20	25	30	32
1			PANEL FACT.		IN1-30602-RGB-JHB			
	AREA1		PANEL INFORMATION					
2			MODULE	-01A		01A		
3			-PRG	-01A				
4			-DAT	-01A				
5			SEQ PRS	-01Y		02A		
6			-PRQ	-01Y				
7			-PIC	-01Y				
8			-SEQ	520Y				
9								
A			SERIAL					
B			DIG.EEP	ADJUSTED				
C			BACKUP	NO DATA!				
D								
E								

■ Key operation

- <DOWN> : Shifting to PANEL WORKS
- <UP> : Shifting to COMBI MASK SETUP (+)
- <L/R> : Updating displayed information

■ Contents of the Display item

- MODULE : The version of data written in the Module microcomputer is indicated.
- PRG : The program version of the Module microcomputer is indicated.
- DAT : The data version of the Module microcomputer is indicated.
- SEQ PRS : The version of data written in the Sequence LSI is indicated.
- PRG : The program version of the Sequence LSI is indicated.
- PIC : The Picture-data version of the Sequence LSI is indicated.
- SEQ : The sequence-data version of the Sequence LSI is indicated.
- SERIAL : The serial number of the module is indicated.
- DIG.EEP : The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
- BACKUP : The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

[2-2] PANEL WORKS

- Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are displayed. No other layers are nested below this layer, and there are no adjustment items.

	1	5	10	15	20	25	30	32
1			PANEL FACT.		IN1-30602-RGB-JHB			
	AREA1		PANEL WORKS					
2								
3			PM-B1	00000715	M			
4			PM-B2	00000607	M			
5			PM-B3	00000852	M			
6			PM-B4	00000668	M			
7			PM-B5	00000733	M			
8								
9			HR-MTR	000025H	20M			
A			P-COUNT	00000095	TIMES			
B			TEMP1	+27.4 / +70.8				
C			CLS-RGB	2000 / 0325 / 1223	-OK			
D								
E								

■ Key operation

- <DOWN> : Shifting to POWER DOWN
- <UP> : Shifting to PANEL INFORMATION
- <L/R> : Updating displayed information

← Temperature unit is " °C (Centigrade) ".

■ Contents of the Display item

- PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
- HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
- P-COUNT: The accumulated power-on count is indicated.
- TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated. The range of temperature indication is from -50.0 to +99.9. (The temperature unit is " °C (Centigrade) ".)
- CLS-RGB: Data obtained from the color sensor are displayed in the order R, G, and B, with the status indication at the end.

CLS Status	OSD Indication
Function OFF	-OFF
Color sensor module non connection	-NC
Data abnormality	-INV
Data normal	-OK

Note:

Turning ON the functions of the color sensor can be performed in the ETC(+) layer.

A [2-3] POWER DOWN

- The power-down history is displayed. No other layers are nested below this layer.

		1	5	10	15	20	25	30	32	
1		PANEL	FACT.			IN1-30602-RGB-JHB				
	AREA1	POWER	DOWN							
	2	1ST		2ND		000124H	23M			
5	3									
	4	1	X-DCCC	-----		000124H	21M			
	5	2	Y-SUS	SCAN		000115H	05M			
	6	3	SCAN	-----		000107H	53M			
	7	4	POWER	SCAN		000098H	47M			
10	8	5	ADRS	-----		000051H	30M			
	9	6	SCN5V	X-DCDC		000022H	21M			
	A	7	Y-DCDC	-----		000000H	57M			
	B	8								
	C									
15	D									
16	E									

■ Key operation

- <DOWN> : Shifting to SHUT DOWN
- <UP> : Shifting to PANEL WORKS
- <L/R> : Updating displayed information

■ Contents of the Display item

- The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred.
- When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.
- The power-down history is not recorded when the power-down occurred at the same place and same time.

<Causes of power-down and corresponding OSD indications>

Cause of power-down	OSD Indication	Cause of power-down	OSD Indication
POWER SUPPLY Unit	P-PWR	ADDRESS Assy	ADRS
SCAN Assy	SCAN	DC/DC converter for X drive	X-DCDC
5 V power for SCAN	SCN5V	X-SUS	X-SUS
DC/DC converter for Y drive	Y-DCDC	DIG-DCDC	D-DCDC
Y-SUS	Y-SUS	Unknown	UNKNOW

[2-4] SHUT DOWN

- The shutdown history of panel section is displayed. No other layers are nested below this layer, and there are no adjustment items.

		1	5	10	15	20	25	30	32	
1		PANEL	FACT.			IN1-30602-RGB-JHB				
	AREA1	SHUT	DOWN							
5	2	MAIN		SUB		000124H	23M			
	3									
	4	1	TMP-NG	TMP-H		000124H	21M			
	5	2	SQ-LSI	RTRY		000115H	05M			
	6	3	MD-DEV	DAC		000107H	53M			
	7	4	SQ-LSI	VER-HS		000098H	47M			
10	8	5	MD-DEV	BACKUP		000051H	30M			
	9	6	SQ-LSI	BUSY		000012H	07M			
	A	7					H	M		
	B	8								
	C									
	D									
15										
16	E									

■ Key operation

- <DOWN> : Shifting to PANEL-1 ADJ (+)
- <UP> : Shifting to POWER DOWN
- <L/R> : Updating displayed information

■ Contents of the Display item

- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred.
- When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.
- The shutdown history is not recorded when the shutdown occurred at the same place and same time.

<Cause of shutdown and corresponding OSD Indication >

Cause of shutdown (MAIN)		Cause of shutdown (SUB)	
Main cause	OSD Indication	Sub cause	OSD Indication
SQ_LSI	SQ_LSI	Communication Error	RTRY
		Drive Stop	SQNO
		Busy	BUSY
		Version mismatching (H/S)	VER-HS
		Version mismatching (H/M)	VER-HM
		Version mismatching (H/I)	VER-HI
MDU-DEVICE	MD-DEV	Digital EEPROM	EEPROM
		Backup EEPROM	BACKUP
		DAC IC	DAC
Abnormally in RST2 power supply	RST2	—	—
Abnormally in panel temperature	TMP-NG	High temperature of the panel	TMP-H
		Low temperature of the panel	TMP-L

<Next nested layer of PANEL-1 ADJ (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C Command	Remarks
1	Vsus voltage	VOL SUS <=>	000 to 255	Factory adjustment value	VSU	
2	Vysnfs voltage	VOL OFFSET <=>			VOF	
3	Vyprst voltage	VOL RST P <=>			VRP	
4	Vxpofs1 voltage	VOL XPOFS1 <=>			VX1	
5	Vxpofs2 voltage	VOL XPOFS2 <=>			VX2	
6	Vyknofs1,2 voltage	VOL YKNOFS1 D <=>			V1F	
7	Vyknofs3 voltage	VOL YKNOFS3 D <=>			V3F	
8	Vyknofs4 voltage	VOL YKNOFS4 D <=>			V4F	
9	Δ Vyknofs1,2/3/4	VOL YKNOFSA D <=>			VYF	
10	First reset (wedge width)	RESET1ST_KSB <=>	112 to 144	128	R1K	Factory use item
11	Second reset (wedge width)	RESET2ND_KSB <=>			R2K	
12	1SF - Y sus tail (wedge width)	YSTL_1SF_KSB <=>			Y1K	
13	1SF - Y sus tail (resonance down width)	YSTL_1SF_HZ <=>			Y1Z	
14	3SF and later - first X sus (resonance up width)	XSUS_1ST_B <=>			X1B	
15	2SF - second Y sus (resonance up width)	YSUS_2ND_B <=>			Y2B	
16	2SF - third X sus (resonance up width)	XSUS_3RD_B <=>			X3B	
17	2SF - repeat Y sus (resonance up width)	YSUS_B <=>			YSB	
18	2SF - repeat X sus (resonance up width)	XSUS_B <=>			XSB	
19	3SF and later - Y sus tail (wedge width)	YSTL_KSB <=>			YTK	
20	3SF and later - Y sus tail (resonance down width)	YSTL_HZ <=>			YTZ	
21	2SF - Y sus tail (wedge width)	YSTL_2SF_KSB <=>			Y2K	
22	2SF - Y sus tail (resonance down width)	YSTL_2SF_HZ <=>			Y2Z	
23	3SF and later (2 pulses of SSF) - Y sus tail (wedge width)	YSTL_FMR_KSB <=>			YNK	
24	Timing between Scan and Address	SCAN ADRS ADJ <=>			SAT	
25	SUS frequency (AM radio anti-jamming)	SUS FREQ <=>	MODE1 to 8	MODE1	SFR	Note

Note: It is necessary to turn OFF and ON the power for reflecting the setting change.

F

- B

C

D

E

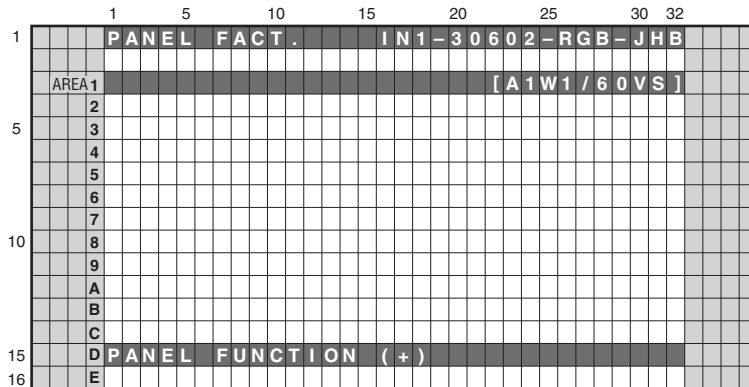
F

E

F

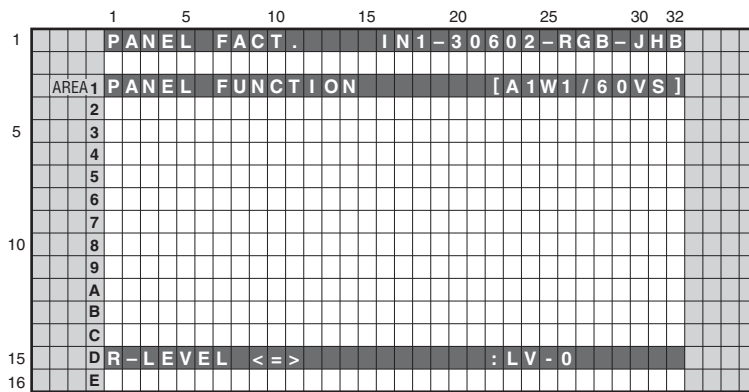
[2-7] PANEL FUNCTION (+)

- A level setting for panel degradation correction can be made. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

- <DOWN> : Shifting to ETC.(+)
- <UP> : Shifting to PANEL-2 ADJ (+)
- <SET> : Shifting to the next nested layer



■ Key operation

- <DOWN> : Shifting to the next item
- <UP> : Shifting to the previous item
- <RIGHT> : Adding by one to the adjustment/setting value
- <LEFT> : Subtracting by one from the adjustment/setting value
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

<Next nested layer of PANEL FUNCTION (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C COMMAND	Remarks
1	R deterioration correction LEVEL	R-LEVEL <=>	Lv-10 to 7	Lv-3	RRL	Factory use item (Note)
2	G deterioration correction LEVEL	G-LEVEL <=>		Lv-2	RGL	
3	B deterioration correction LEVEL	B-LEVEL <=>		Lv-0	RBL	
4	L1 address	ADDRESS L1 <=>	PH0 to 9	PH1	AP0	
5	L2 address	ADDRESS L2 <=>		PH3	AP0	
6	L3 address	ADDRESS L3 <=>		PH1	AP1	
7	L4 address	ADDRESS L4 <=>		PH3	AP1	
8	U1 address	ADDRESS U1 <=>		PH1	AP2	
9	U2 address	ADDRESS U2 <=>		PH3	AP2	
10	U3 address	ADDRESS U3 <=>		PH1	AP3	
11	U4 address	ADDRESS U4 <=>		PH3	AP3	
12	Streaking correction	STK MODE <=>	OFF to MODE1 to 8	MODE1	SKM	Factory use item
13	Black display mode	FULL BLACK <=>	OFF to MODE1	MODE1	FBM	
14	Panel Rx characteristic	PANEL RX <=>	000 to 999	Factory adjustment value	PRX	
15	Panel Ry characteristic	PANEL RY <=>	000 to 999		PRY	
16	Panel Gx characteristic	PANEL GX <=>	000 to 999		PGX	
17	Panel Gy characteristic	PANEL GY <=>	000 to 999		PGY	
18	Panel Bx characteristic	PANEL BX <=>	000 to 999		PBX	
19	Panel By characteristic	PANEL BY <=>	000 to 999		PBY	
20	Color sensor R coefficient	CLS R <=>	000 to 255	128	CSR	
21	Color sensor G coefficient	CLS G <=>	000 to 255	128	CSG	
22	Color sensor B coefficient	CLS B <=>	000 to 255	128	CSB	

Note: It is necessary to turn OFF and ON the power for reflecting the setting change.

A [2-8] ETC. (+)

- Clearance of various log data for the panel and changing of settings for which setting data were not stored upon last update can be performed.

Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

■ Key operation

- <DOWN> : Shifting to RASTER MASK SETUP (+)
 <UP> : Shifting to PANEL FUNCTION (+)
 <SET> : Shifting to the next nested layer

■ Key operation

- <DOWN> : Shifting to the next item
 <UP> : Shifting to the previous item
 <RIGHT> : Adding by one to the adjustment/setting value
 <LEFT> : Subtracting by one from the adjustment/setting value
 <SET> : Determining the adjustment/setting value and shifting to the upper layer

D <Next nested layer of ETC (+)>

No.	Item	OSD Indication	Processing Contents	RS-232C COMMAND	Remarks
1	Backup EEPROM data	BACKUP DATA <=>	• NO OPRT (No operation) • TRANSFER (Backup data transmission)	BCP	
2	Digital EEPROM data	DIGITAL EEPROM <=>	• NO OPRT (No operation) • REPAIR (Adjustment is complete) • DELETE (Adjustment is not complete)	FAJ/UAJ	
3	PD history	PD INFO. <=>	• NO OPRT (No operation) • CLEAR (Data clear)	CPD	
4	SD history	SD INFO. <=>		CSD	
5	HOURLY METER	HR-MTR INFO. <=>		CHM	
6	Pulse meter	PM/B1-B5 <=>		CPM	
7	PON counter	P COUNT INFO. <=>		CPC	
8	Maximum temperature	MAX TEMP. <=>		CMT	
9	Mirror reversing display	MIRROR <=>	• Mirror reversing display OFF • MODE1 (Right and left reversing) • MODE2 (Top and bottom reversing) • MODE3 (Right and left, Top and bottom reversing)	MIR	The indication on the menu is also highlighted. The setting is canceled upon power-off.
10	Color sensor mode	CLS <=>	• Color sensor operation OFF • Color sensor operation ON	CSF	

[2-9] RASTER MASK SETUP (+)

- This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

			1		5		10		15		20		25		30	32																	
1				P	A	N	E	L	F	A	C	T	.			I	N	1	-	3	0	6	0	2	-	R	G	B	-	J	H	B	
			AREA1																														
			2																														
5			3																														
			4																														
			5																														
			6																														
			7																														
10			8																														
			9																														
			A																														
			B																														
			C																														
15				D	R	A	S	T	E	R		M	A	S	K		S	E	T	U	P		(+)								
16				E																													

■ Key operation

- <DOWN> : Shifting to PATTERN MASK SETUP (+)
- <UP> : Shifting to ETC. (+)
- <SET> : Shifting to the next nested layer

			1	5	10	15	20	25	30	32																							
1			PANEL FACT.										IN1-30602-RGB-JHB																				
	AREA1	RASTER MASK SETUP										[A1W1/60VS]																					
	2																																
5	3																																
	4																																
	5																																
	6																																
	7																																
10	8																																
	9																																
	A																																
	B																																
	C																																
15	DRST MASK 01 : 60V																																
16	E																																

■ Key operation

- <DOWN> : Shifting to the next MASK
- <UP> : Shifting to the previous MASK
- <RIGHT> : Changing MASK sequence (+)
- <LEFT> : Changing MASK sequence (-)
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of RASTER MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKR/VFQ	
2	Display raster mask 01	RST MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
26	Display raster mask 25	RST MASK 25 <=>			

A [2-10] PATTERN MASK SETUP (+)

- This menu set the PATTERN MASK and the drive sequence at PATTERN MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1					[A1W1/60VS]			
2									
3									
4									
5									
6									
7									
8									
9									
A									
B									
C									
D		PATTERN	MASK	SETUP	(+)				
E									

■ Key operation

- <DOWN> : Shifting to COMBI MASK SETUP (+)
- <UP> : Shifting to RASTER MASK SETUP (+)
- <SET> : Shifting to the next nested layer

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1	PATTERN	MASK	SETUP		[A1W1/60VS]			
2									
3									
4									
5									
6									
7									
8									
9									
A									
B									
C									
D		PTN	MASK	01		: 60V			
E									

■ Key operation

- <DOWN> : Shifting to the next MASK
- <UP> : Shifting to the previous MASK
- <RIGHT> : Changing MASK sequence (+)
- <LEFT> : Changing MASK sequence (-)
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of PATTERN MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKS/VFQ	
2	Display raster mask 01	PTN MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
50	Display raster mask 49	PTN MASK 49 <=>			

[2-11] COMBI MASK SETUP (+)

- This menu set the COMBI MASK and the drive sequence at COMBI MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1					[A1W1/60VS]			
	2								
5	3								
	4								
	5								
	6								
	7								
10	8								
	9								
	A								
	B								
	C								
15	D	COMBI	MASK	SETUP	(+)				
16	E								

■ Key operation

- <DOWN> : Shifting to PANEL INFORMATION
- <UP> : Shifting to PATTERN MASK SETUP (+)
- <SET> : Shifting to the next nested layer

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1	COMBI	MASK	SETUP		[A1W1/60VS]			
	2								
5	3								
	4								
	5								
	6								
	7								
10	8								
	9								
	A								
	B								
	C								
15	D	CMB	MASK	01		: 60V			
16	E								

■ Key operation

- <DOWN> : Shifting to the next MASK
- <UP> : Shifting to the previous MASK
- <RIGHT> : Changing MASK sequence (+)
- <LEFT> : Changing MASK sequence (-)
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of COMBI MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKC/VFQ	
2	Display raster mask 01	CMB MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
18	Display raster mask 17	CMB MASK 17 <=>			

A [3] OPTION

Operation item

No.	Function	Content	RS-232C
[3-1]	CH PRESET <=>	Set the channel map for production line	SCP
[3-2]	Digital AFT <=>	Set AFT of the Satellite digital broadcasting (*1)	AFT
[3-3]	SYNC DET (+)	Set the synchronized signal detection of VDEC	----
[3-4]	CTI (+)	Set the synchronized signal detection of VDEC	----

(*1): PDP-LX5090H only

B

[3-1] CH PRESET <=>

Exclusively used for production line.

[3-2] Digital AFT <=>

Exclusively used for production line.

C [3-3] SYNC DET (+)

Exclusively used for technical analysis (details omitted).

[3-4] CTI (+)

Exclusively used for technical analysis (details omitted).

D

E

F

[4] INITIALIZE

Operation item

No.	Function	Content	RS-232C
[4-1]	SIDE MASK LEVEL (+)	Configure the color of the side mask.	SML
[4-2]	FINAL SETUP (+)	Initialize flash memories on virgin product status	FST
[4-3]	DTB SERVICE MODE (+)	Enter the Digital Tuner Service Menu (*1)	----
[4-4]	Wide XGA AUTO <=>	Exclusively used for technical analysis.	----
[4-5]	AUTO ADJUSTMENT (+)	Perform the auto-adjustment setting process	----

(*1): PDP-LX5090H only

[4-1] SIDE MASK LEVEL (+)

1	5	10	15	20	25	30	35	40
1	INITIALIZE	AV1-10501-PLV-EHB						
5								
10								
15	SIDE MASK LEVEL (+)							
16								

To configure sidemask level (To adjust the values, input signal is required).

Display Item	Content	RS-232C
SIDE MASK LEVEL <=>	Adjust Side Mask level (Adjustable range: 000 to 255, Initial value: 115)	SML

Note: In this mode (SIDE MASK LEVEL), adjustment value cannot be changed with the VOLUME +/- keys.

[4-2] FINAL SETUP (+)

1	5	10	15	20	25	30	35	40
1	INITIALIZE	AV1-10501-PLV-EHB						
	FINAL SETUP							
5								
10								
15	DATA RESET <=>	: NO						
16								

- To reset each memory value to factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to the previous screen.
- When the configuration is set to <YES> and the [ENTER/SET] key is pressed for 5 seconds, the reset action executes.

Be sure to disconnect and connect the AC cable after FINAL SETUP.

When replacing the MAIN Assy, the FINAL SETUP is required.

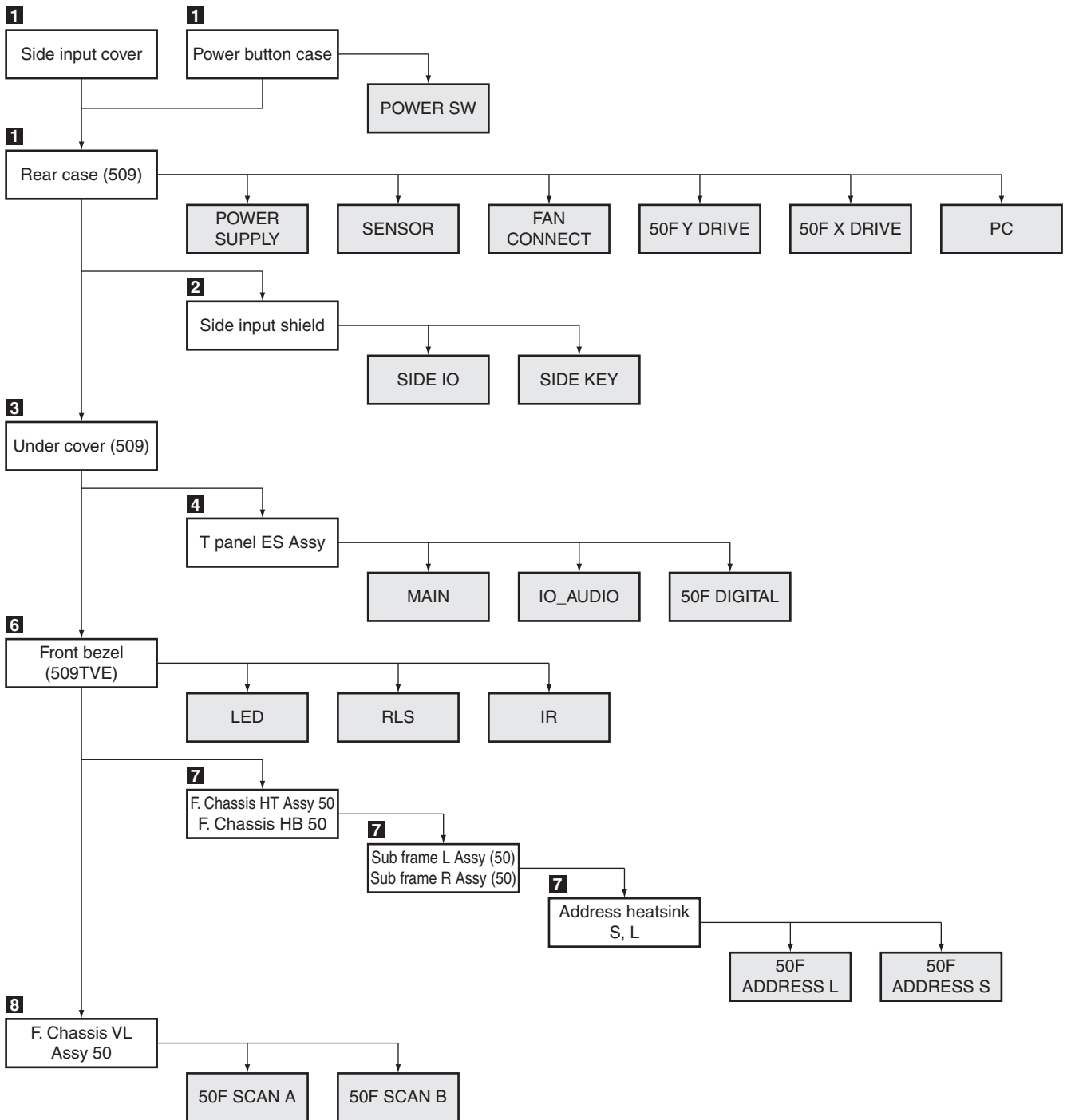
7. DISASSEMBLY

7.1 FLOWCHART OF REMOVAL ORDER

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Flowchart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



7.2 DISASSEMBLY

Disassembly

1 Rear Case (509)

● Power button case

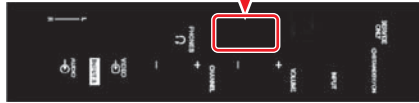
- ① Remove the two screws. (ABA1379)
- ② Remove the power button case.

● Side input cover

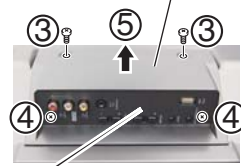
- ③ Remove the two screws. (ABA1378)
- ④ Remove the two screws. (ABA1377)
- ⑤ Remove the side input cover.

A cutout for an HDMI connector is provided on the side input cover, and the side label is attached over the cutout. Be careful not to accidentally push on the area of the label indicated in the figure below, because that area will become indented.

Side label



Side input cover

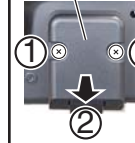


● Screw tightening order

The other screws are random order.



Power button case



POWER SW Assy

● Screw tightening order



● Rear case (509)

- ⑥ Remove the two screws. (ABA1380)
- ⑦ Remove the two screws. (ABA1379)
- ⑧ Remove the 25 screws. (ABA1377)
- ⑨ Remove the rear case (509).

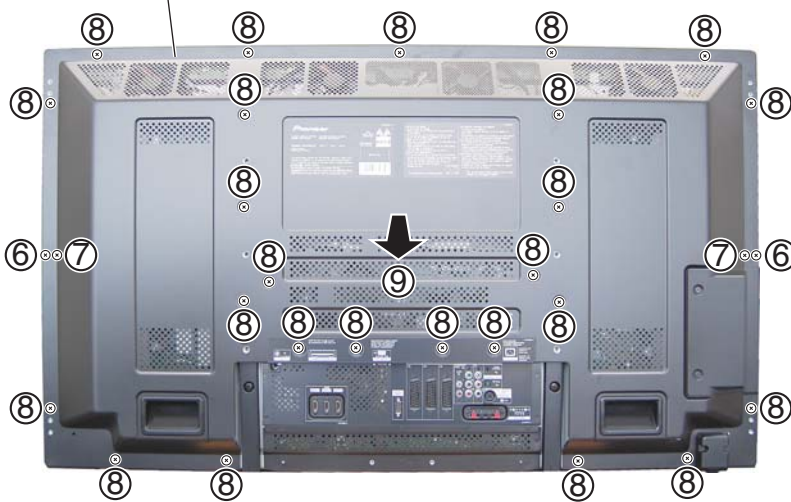
Reference



ABA1377

ABA1378

Rear case (509)



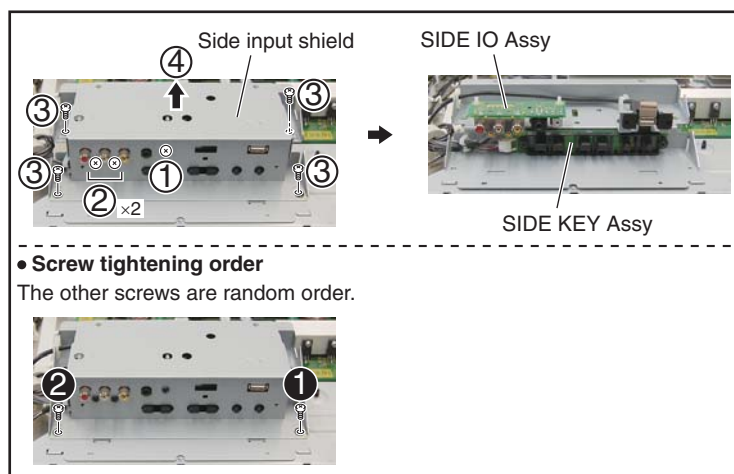
● Screw tightening order

The other screws are random order.



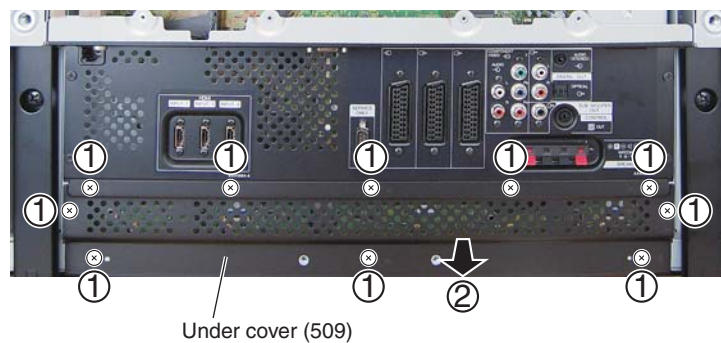
2 Side Input Shield

- ① Remove the one screw. (BMZ30P080FTB)
- ② Remove the two screws. (BPZ30P080FTB)
- ③ Remove the four screws. (AMZ30P060FTB)
- ④ Remove the side input shield.



3 Under Cover (509)

- ① Remove the 10 screws. (ABA1377)
- ② Remove the under cover (509).

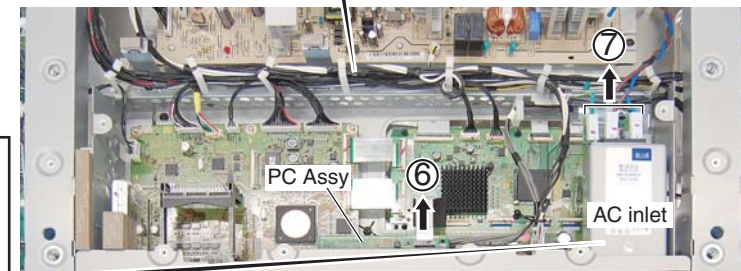


- Screw tightening order
The other screws are random order.

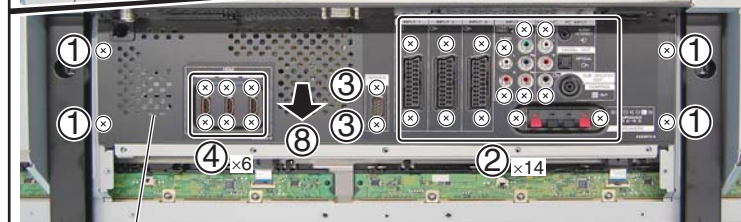
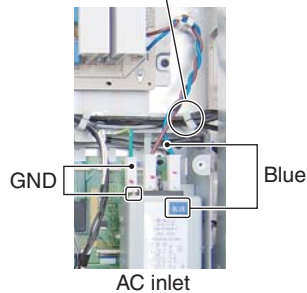


4 T Panel ES Assy

- ① Remove the 10 screws. (ABA1377)
- ② Remove the 14 screws. (BPZ30P080FTB)
- ③ Remove the two hexagon head screws. (ABA1382)
- ④ Remove the six screws. (BMZ30P060FTB)
- ⑤ Remove the card lid.
- ⑥ Disconnect the one flexible cable.
- ⑦ Disconnect the three connectors.
- ⑧ Remove the T panel ES Assy.



Do NOT pass the AC inlet jumper wire through this wire saddle.



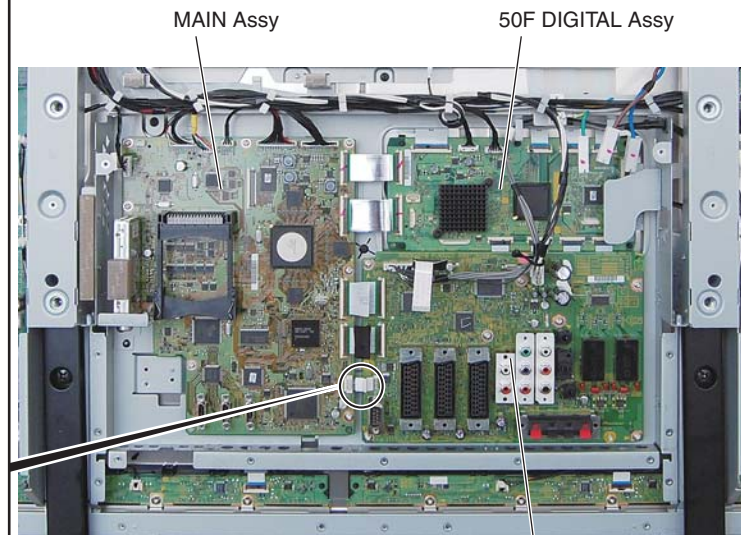
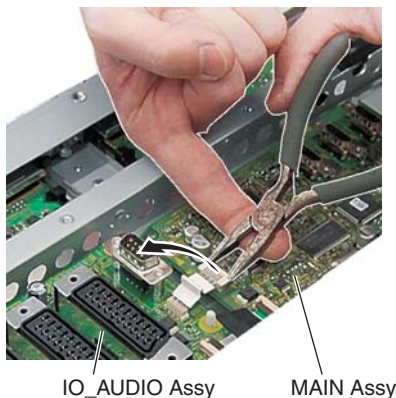
T panel ES Assy



Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

How to remove the bridge connector

- (1) Grip the two short edges of the connector with longnose pliers.
- (2) Insert a finger between the longnose pliers and the board to protect the board and the mounted parts on the board from accidental damage by the pliers then, using your finger as a fulcrum and the pliers as a lever, pry the connector upward to remove it.



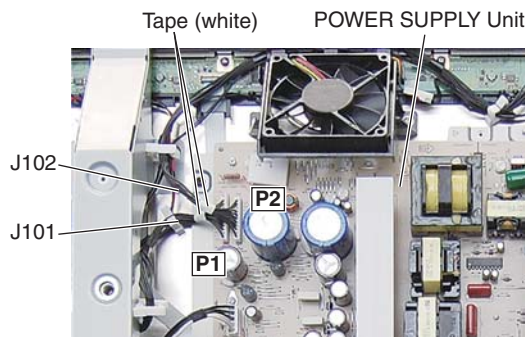
IO_AUDIO Assy



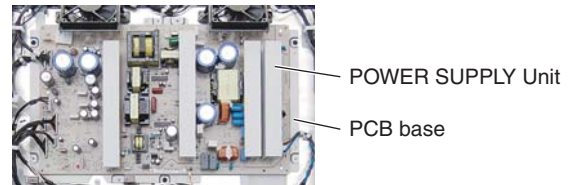
Notes on Lead Dressing

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

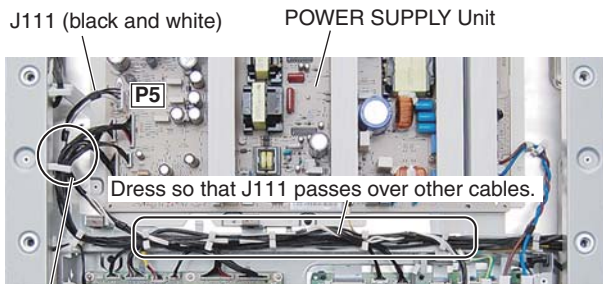
The J101 and J102 cables require correct orientation for connection. Connect the connectors with white tape to the POWER SUPPLY Unit.



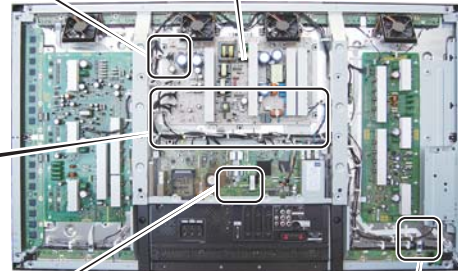
When removing the POWER SUPPLY Unit, be sure to remove not only the POWER SUPPLY Unit but entire PCB base.



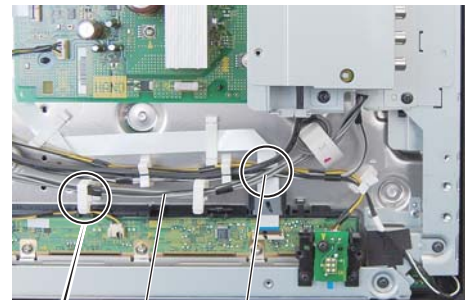
Around the periphery of the Multibase, the J111 cable wires (black and white) must be bound lastly then be dressed so that they pass over other cables.



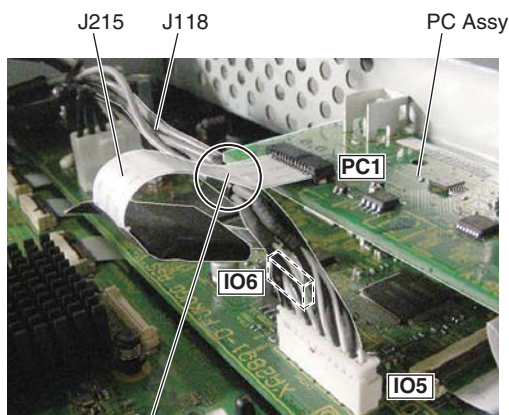
Dress the J111 so that it passes under other cables.



Dress the J118 cable so that it passes over other cables.

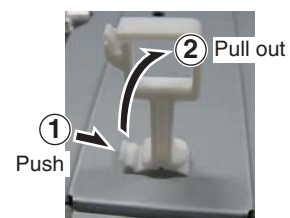


The J215 cable must be passed over the J118 cable.



Pass J215 over J118.

How to remove the newly adopted wire saddle from the chassis



5 Access to 50F DIGITAL Assy

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

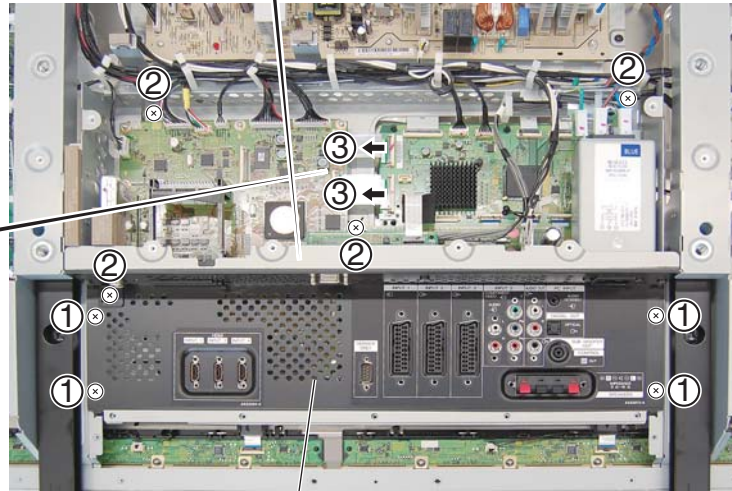
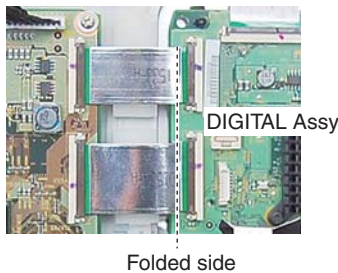
Note:

When you remove whole Multibase Section, it is not necessary to remove T panel ES Assy.

- ① Remove the six screws. (ABA1377)
- ② Remove the four screws. (ABA1351)
- ③ Disconnect the two flexible cables.

Note on connection of the flexible cable

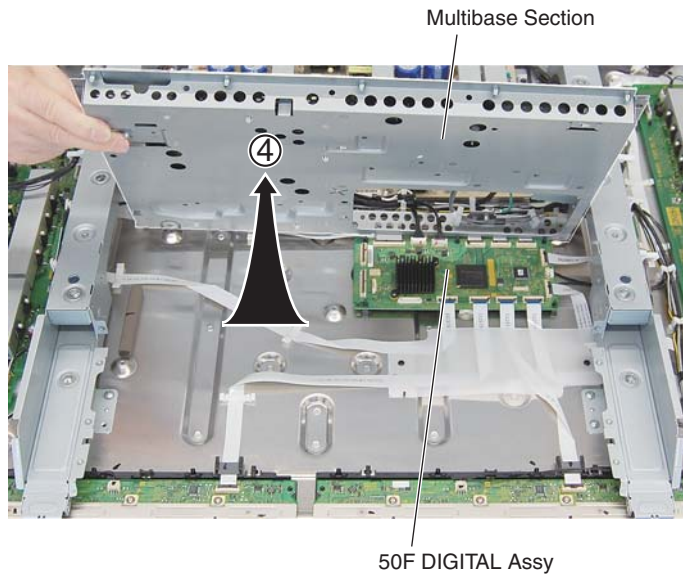
This flexible cables requires correct orientation for connection. Connect the folded side of the cable to the connector on the DIGITAL Assy, as shown in the photo below. **Reversely connecting the cable will damage the Assy.**



T panel ES Assy

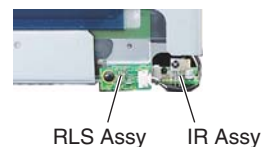
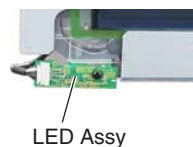
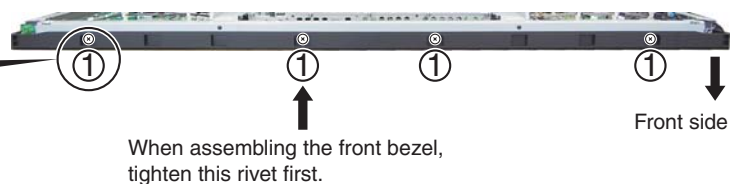
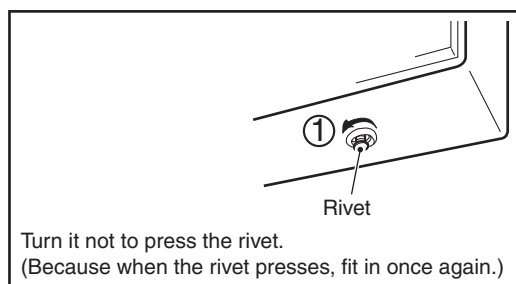
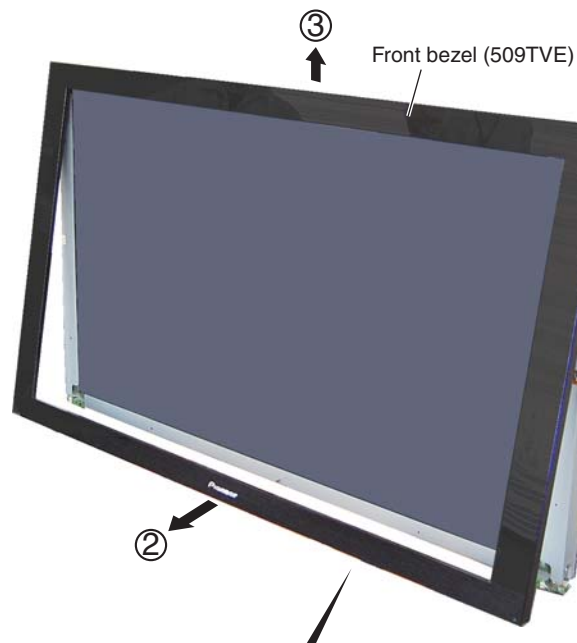


- ④ Lift the Multibase Section to the direction of the arrow.



6 Front Bezel (509TVE)

- ① Remove the four rivets.
- ② Pull the lower part of the front bezel (509TVE) toward you and out.
- ③ Remove the front bezel (509TVE), by pulling it upward.

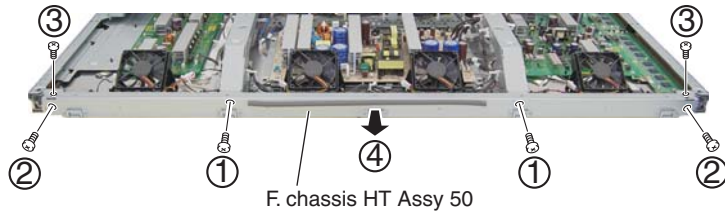


A

7 Access to ADDRESS L and S Assys

● F. Chassis HT Assy 50

- ① Remove the two screws. (AMZ30P060FTB)
- ② Remove the two screws. (ABZ30P080FTC)
- ③ Remove the two screws. (AMZ30P060FTB)
- ④ Remove the F. chassis HT Assy 50.



B

■ Screw tightening order

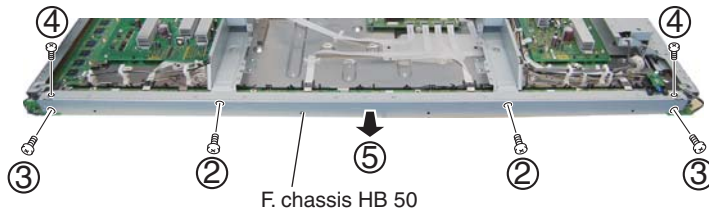
The other screws are random order.



C

● F. Chassis HB 50

- ① Disconnect cables, connectors, as required.
- ② Remove the two screws. (AMZ30P060FTB)
- ③ Remove the two screws. (ABZ30P080FTC)
- ④ Remove the two screws. (AMZ30P060FTB)
- ⑤ Remove the F. chassis HB 50.



D

■ Screw tightening order

The other screws are random order.



E

F

● Sub frame L and R Assys

- ① Disconnect cables, connectors, as required.
- ② Remove the four screws. (TBZ40P060FTC)

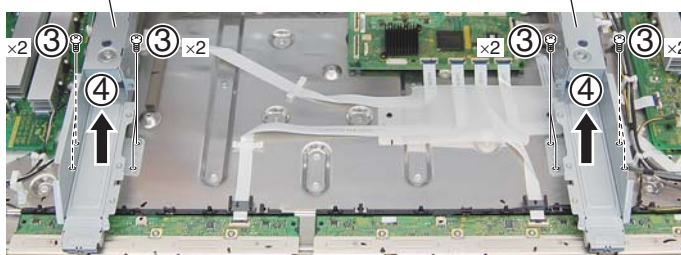
Sub frame R Assy (50)

Sub frame L Assy (50)



Sub frame L Assy (50)

Sub frame R Assy (50)



- ③ Remove the eight screws. (TBZ40P060FTC)
- ④ Remove the sub frame L and Assys.

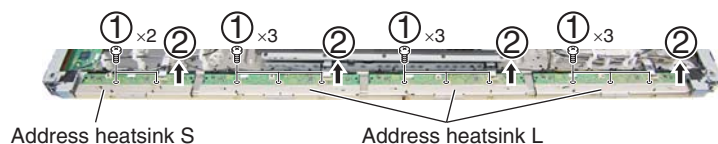
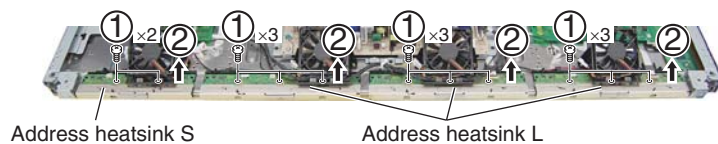
■ Screw tightening order

The other screws are random order.



● Address heatsink S , L

- ① Remove the 22 screws. (ABA1351)
- ② Remove the two address heatsinks S and six address heatsinks L.



A

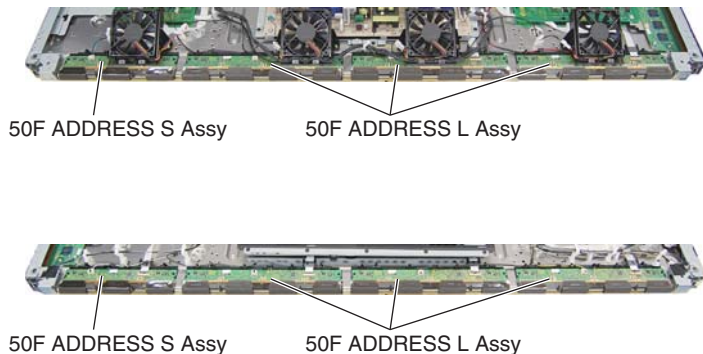
B

C

D

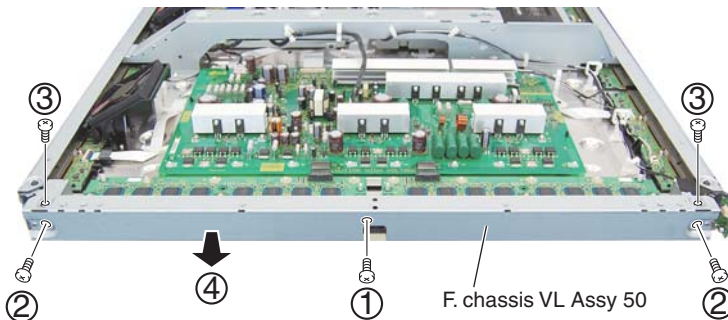
E

F



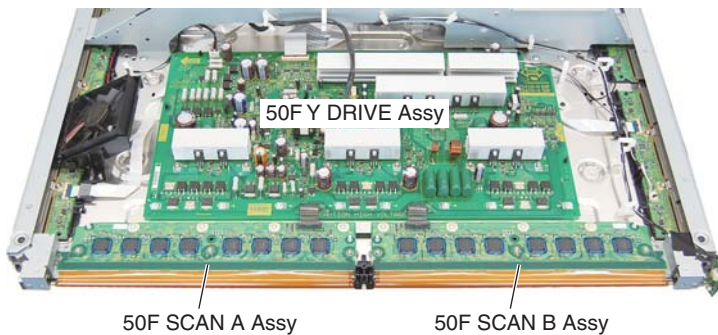
8 Access to SCAN A and B Assys

- ① Remove the one screw. (APZ30P080FTB)
- ② Remove the two screws. (ABZ30P080FTC)
- ③ Remove the two screws. (AMZ30P060FTB)
- ④ Remove the F. chassis VL Assy 50.



Screw tightening order

The other screws are random order.



8. EACH SETTING AND ADJUSTMENT



1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	Refer to "8.3 HOW TO CLEAR HISTORY DATA".
DIGITAL Assy	➡	Writing of backup data is required. Refer to the "8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)".
X DRIVE Assy	➡	No adjustment required
Y DRIVE Assy	➡	No adjustment required
Service Panel Assy	➡	Refer to "8.3 HOW TO CLEAR HISTORY DATA" and "8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED".
MAIN Assy (*)	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
IO AUDIO Assy	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
PANEL SENSOR Assy	➡	No adjustment required Backup data are automatically copied during the next power-off.
Other assemblies	➡	No adjustment required

(*) : When replacing the MAIN Assy, be sure to perform the FINAL SETUP.

■ When any of the following assemblies is repaired

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.

If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2555	MAIN Assy	IC5002	EEPROM	BR24L02FV-W
		IC5003	EEPROM	BR24L02FV-W
		IC5004	EEPROM	BR24L02FV-W
		IC7004	EEPROM	BR24L64F-W
		IC6701	Flash ROM	AGC1080
		IC6811	Flash UCOM	AGC1072
		IC7202	Flash ROM	AGC1075
AWV2543	DIGITAL Assy	IC7205	Flash ROM	AGC1076
		IC3302	Flash ROM	AGC1071
AWV2543	DIGITAL Assy	IC3601	Flash UCOM	AGC1070
AWW1359	PC Assy	IC8802	EEPROM	BR24L01AFJ-W
AWW2546	X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWW2547	Y DRIVE Assy	• Parts of Y VF D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 2		

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

For the parts described in the table below, replacement of individual parts is difficult, because a heat pad is provided under the bottom of the ICs.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2555	MAIN Assy	IC4501	DC/DC Converter	LTC3407EMSE-2
		IC4901	HDMI Rx	SII9125CTU
AWW1354	IO AUDIO Assy	IC8401	Digital Amp	TAS5122DCA

POWER SUPPLY Unit	➡	The assembly must be replaced as a unit, and no part replacement is allowed.	A
MAIN Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED."	
IO AUDIO Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED."	
DIGITAL Assy	➡	No adjustment required	B
X DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED."	
Y DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED."	
ADDRESS Assy	➡	No adjustment required	C
PANEL SENSOR Assy	➡	No adjustment required	
Other assemblies	➡	No adjustment required	

D

E

F

A

■ Outline

Adjustment data are stored in the EEPROM on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup) on the PANEL SENSOR Assy.
If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the PANEL SENSOR Assy to a new DIGITAL Assy.

■ Backed up data

- B
- Drive voltage adjustment value
 - Panel white balance adjustment value
 - Drive waveform adjustment value
 - Hour-meter count

- Pulse-meter count
 - P-ON counter value
 - Serial No.
 - PD/SD histories

■ How to copy backup data

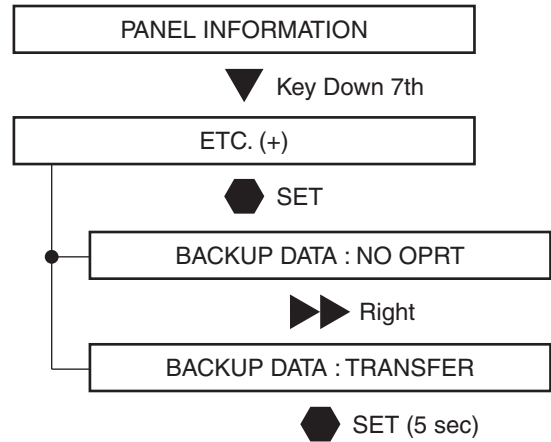
1. When the DIGITAL Assy is replaced with one for service (usual service)

Immediately after the DIGITAL Assy is replaced, the EEPROM on the DIGITAL Assy is in the status "adjustment not completed," and the EEPROM for backup on the PANEL SENSOR Assy is in the status "adjustment completed." The LED on the main unit warns you that the adjustment data in the EEPROM for backup have not been copied to the EEPROM on the DIGITAL Assy, by lighting the red LED and flashing the blue LED. In such a case, the adjustment data for backup can be used by copying the data to the EEPROM on the DIGITAL Assy, with the following procedures:

C

(1) Copying, using the Factory menu

- ① Turn on the power.
- ② Enter the Panel Factory mode.
- ③ Display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP".
- ④ Copy the backup data, as shown in the figure below.



- E
- ⑤ Check if "ADJUSTED" is set for "DIG. EEP" on the PANEL INFORMATION page.

⑥ Turn off the power.

(2) Copying, using the RS-232C commands

- ① Turn on the power.
- ② Issue the FAY command.
- ③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment not completed" and that the adjustment backup flag is "adjustment completed."
- ④ Issue the BCP command to transfer the data stored in the EEPROM for backup.
- ⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment completed."
- ⑥ Turn off the power.

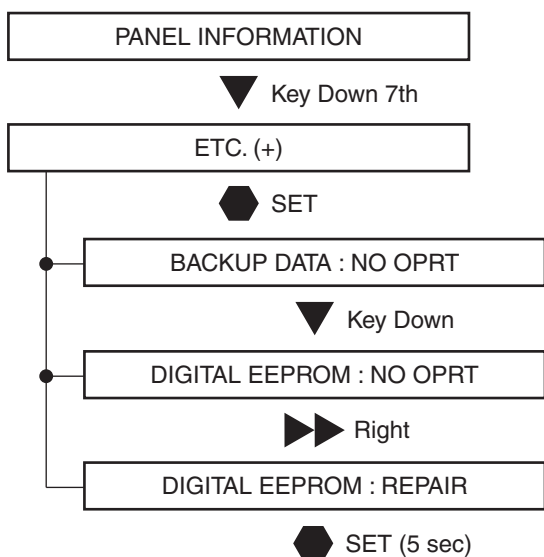
Note: If both the DIGITAL and PANEL SENSOR Assys are to be replaced, replace the PANEL SENSOR Assy first in order to store the backup data. Then turn the unit on then back off again, then replace the DIGITAL Assy.

2. When manual adjustment is required after the DIGITAL Assy is replaced with one for service

If backup data cannot be transferred to the DIGITAL Assy because of defective parts, etc., after the DIGITAL Assy is replaced and manual adjustment is performed, those manually adjusted data can be registered as adjusted data with the following procedures. Once the data on the DIGITAL Assy are registered as adjusted data, the adjustment data for backup will be automatically updated each time the unit is turned off. Therefore, if a DIGITAL Assy with adjusted data is mounted on the unit, the following procedures are not required, even after manual adjustment.

(1) Copying, using the Factory menu

- ① Turn on the power.
- ② Enter the Panel Factory mode.
- ③ Display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP".
- ④ Register the changed adjustment data as adjusted data, as described for the following procedures, then transfer them as backup data.



- ⑤ Check if "ADJUSTED" is set for "DIG. EEP" on the PANEL INFORMATION page.
- ⑥ Turn off the power.

(2) Copying, using the RS-232C commands

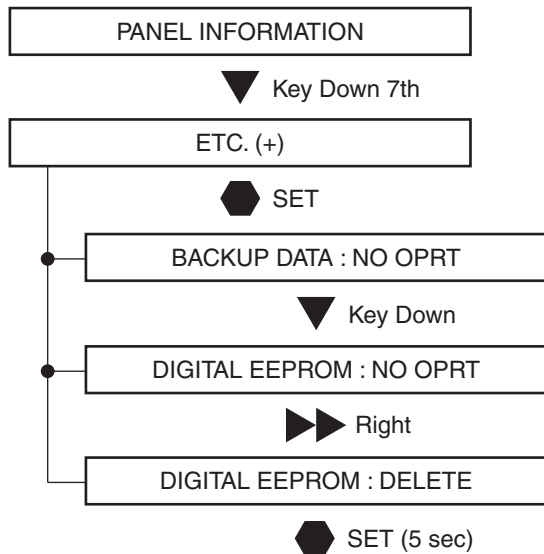
- ① Turn on the power.
- ② Issue the FAY command.
- ③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment not completed."
- ④ Issue the FAJ command to register the changed adjustment data as adjusted data then transfer them as backup data.
- ⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment completed."
- ⑥ Turn off the power.

3. When a secondhand DIGITAL Assy is to be reused

A DIGITAL Assy in good condition that had been mounted in another product can be reused. Before reuse, by following the procedures described below, make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data in order to prevent accidental updating of backup data when the secondhand DIGITAL Assy is mounted in another product

(1) Copying, using the Factory menu

- ① Turn on the power.
- ② Enter the Panel Factory mode.
- ③ Display the PANEL INFORMATION page, then check if "ADJUSTED" is set for "DIG. EEP".
- ④ Make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data, by following the procedures below:



- ⑤ Check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page.
- ⑥ Turn off the power.

(2) Copying, using the RS-232C commands

- ① Turn on the power.
- ② Issue the FAY command.
- ③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment completed."
- ④ Issue the UAJ command to make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data.
- ⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment not completed."
- ⑥ Turn off the power.

Note: If you mount a secondhand Assy to the product without performing the above procedures, the adjustment data and logs for the main unit specific to the product will be erased, and those of the secondhand Assy will be copied when the unit is turned off.

8.3 HOW TO CLEAR HISTORY DATA

■ Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up. Some of those data must be cleared after the Assys are replaced for service.

Clearance of those data can be performed in the ETC layer of the Factory menu or with RS232C commands.

Item	Content	Clearing at the Replacement			Clearing method	
		Panel	POWER SUPPLY Unit	Other parts	Factory Menu (ETC layer)	RS-232C Commands
Hour-meter	Accumulated power-on time	Must be cleared	No need to be cleared	No need to be cleared	HR-MTR INFO.	CHM
Pulse-meter	Accumulated number of pulses emitted	Must be cleared (mandatory)	No need to be cleared	No need to be cleared	PM/B1-B5	CPM
Shutdown history of the panel	Causes and hour-meter values for the last eight shutdowns (SD) of the Panel	Must be cleared	No need to be cleared	No need to be cleared	SD INFO.	CSD
Power-down history	Causes and hour-meter values for the last eight power-downs (PDs) of the Panel	Must be cleared	No need to be cleared	No need to be cleared	PD INFO.	CPD
Power-on counter	Relay-on count	No need to be cleared	Must be cleared (mandatory)	No need to be cleared	P COUNT INFO.	CPC
MAX TEMP	Historical max. temperature of the panel	Must be cleared	Must be cleared	Must be cleared	MAX TEMP.	CMT

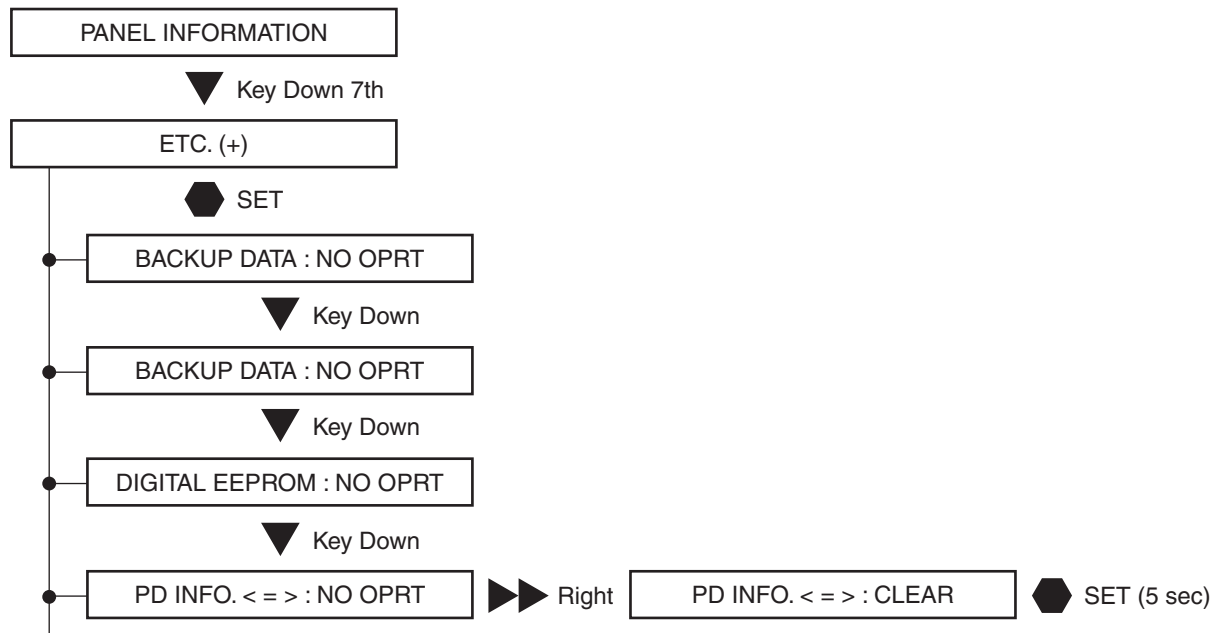
Notes:

- As the pulse-meter count is used for each correction function, the log must be cleared when the panel is replaced.
- After you clear the log, the unit must be turned off then back on again to reflect the cleared data for each correction function. If any adjustment is required after clearing the log, be sure to turn the unit off then back on again before adjustment.

(1) Clearance of logs, using the Factory menu

- Turn on the power.
- Enter the Panel Factory mode.
- Clear the various logs, as shown in the figure below.

Note: The following example shows how to clear the PD log (PD INFO.). To clear other items, select each item you wish to clear then perform the same procedures.



- Turn off the power.

(2) Using the RS-232C commands

- Turn on the power.
- Issue the FAY command.
- Issue the Delete command for a log you wish to clear.
- Turn off the power.

1234

8.4 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

A

After the panel is replaced with one for service, voltage margin adjustment is required.

■

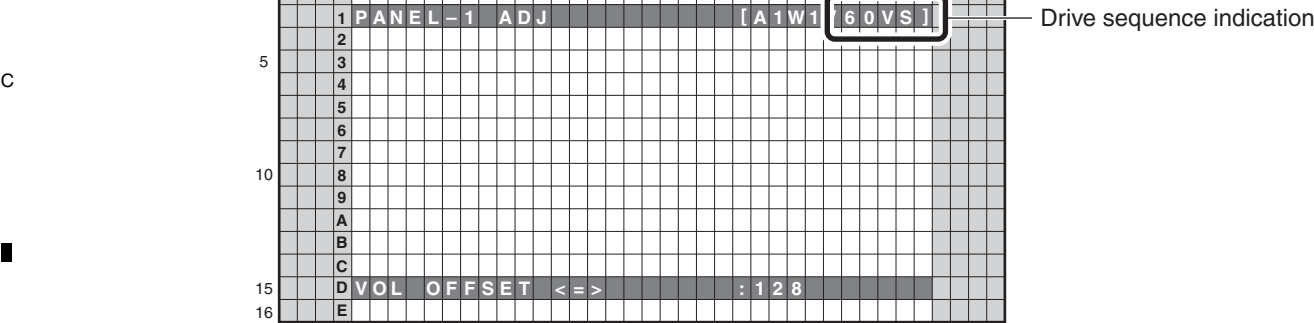
[Preparation]

■

Basically, voltage margin adjustment is performed using the Panel Factory menu.
After the panel is replaced and the unit is turned on, clear the pulse meter first.
For details on how to clear the pulse meter, see "8.3 HOW TO CLEAR HISTORY DATA".

- B
- *1: As various corrections are made referring to the pulse-meter count to calculate how long the panel has been used, if adjustment of the panel for service is performed without clearing the pulse-meter count, proper adjustments will not be performed.

*2: The drive sequence for Video 60-Hz is used for adjustment. When adjustment is made using the Panel Factory menu, the current drive sequence is displayed on the screen, as shown in the figure below. Make sure that 60VS is always indicated during adjustment.



Example of the On-Screen display during Panel Factory mode

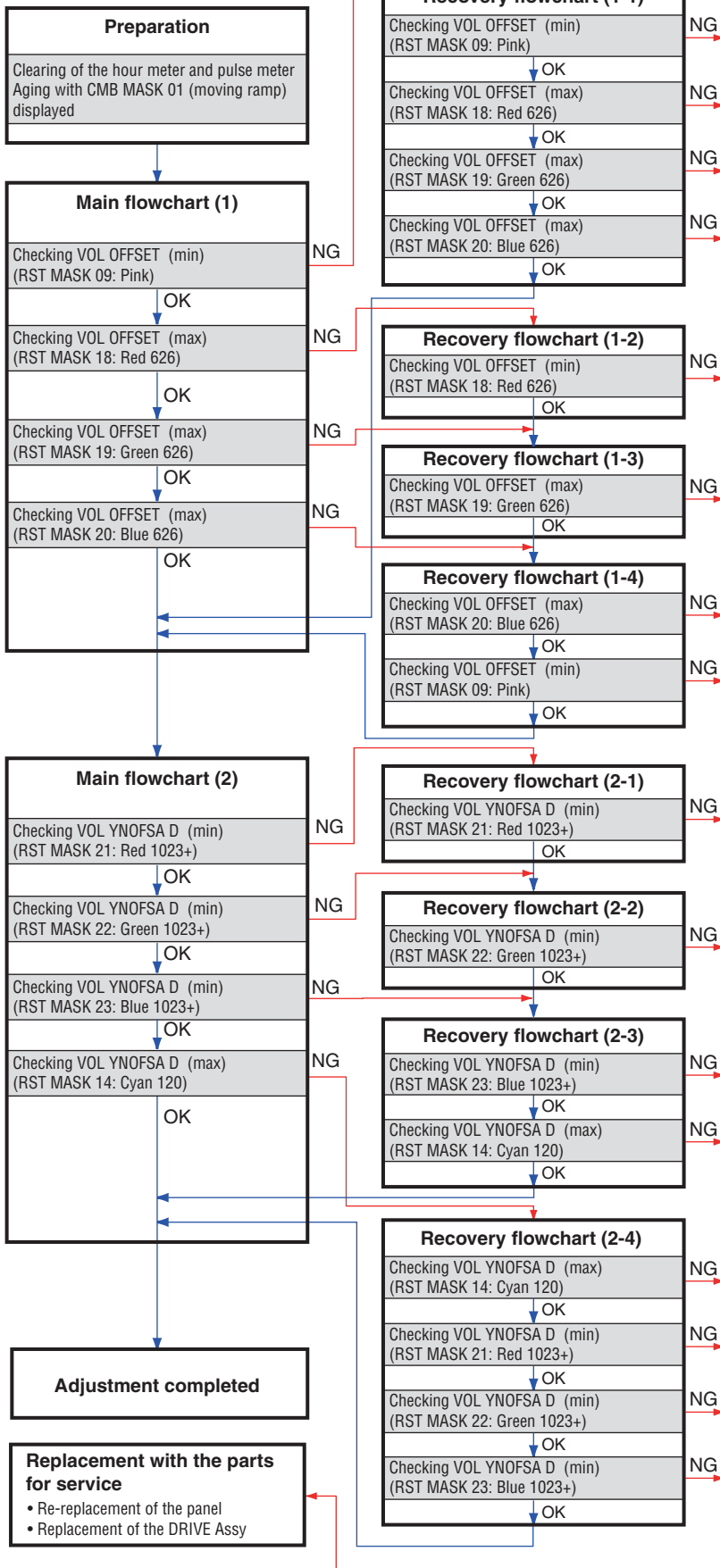
D

[Supplement]

■

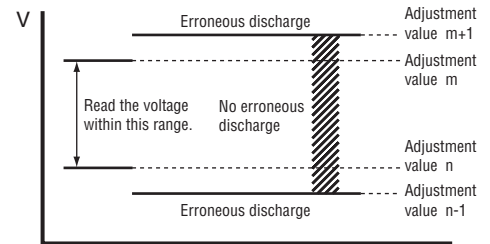
In the "PANEL-1ADJ" layer, the Panel White Balance value is reset to default, Panel Gamma is set to Straight, Noise is set to OFF, LUT mode is set to ON and Reset active control is set to OFF.
If adjustment is performed using RS232C commands, unlike the case of Factory menu operation, adjustments are not interlocked. Therefore, settings must be performed individually, by issuing commands. (See the section on preparations before adjustment.)

Overview



Range of margin measuring

Read the voltage within the hysteresis (stricter value).



Definition of limits for the voltage margins (abnormal lit/dead cells)

Abnormal lit cells:

- Five or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

Abnormal dead cells

- Fifteen or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

*: Abnormal cells visually recognizable at a distance of 1 meter from the panel must be counted.

*: Cells displayed abnormally for less than one second are not counted as abnormal cells.

Definition of tones for the measuring signals

FHD signal (1920*1080)/Video 60-Hz sequence
/Dither: ON, L dither: ON, noise: OFF

Pink	RST MASK 09 (R 1023 /G 626 /B 1023)
Cyan 120	RST MASK 14 (R 0 /G 120 /B 120)
Red 626	RST MASK 18 (R 626 /G 0 /B 0)
Green 626	RST MASK 19 (R 0 /G 626 /B 0)
Blue 626	RST MASK 20 (R 0 /G 0 /B 626)
Red 1023+	RST MASK 21 (R 1023 /G 120 /B 120)
Green 1023+	RST MASK 22 (R 120 /G 1023 /B 120)
Blue 1023+	RST MASK 23 (R 120 /G 120 /B 1023)

Interlocked settings for Voltages Vyknofs1/3/4

For the 9th-generation PDPs, interlocked setting for Voltages Vyknofs1/3/4 is available on the Factory menu or with RS232C commands, for easier adjustment. Therefore, in the adjustment flowchart, the interlocked setting function is used. (Individual setting for each adjustment value is also possible, as in the conventional setting methods.

Set Voltage	Factory Menu	Command
Vyknofs1 individual	VOL YNOFS1 D	[V1F]
Vyknofs3 individual	VOL YNOFS3 D	[V3F]
Vyknofs4 individual	VOL YNOFS4 D	[V4F]
Vyknofs1,3,4 interlocked	VOL YNOFSA D	[VYF]

Note:

- The initial value for the interlocked setting value is 128, including for factory preset values.
- See "[3] DRIVE ASSY" of "5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS" for calculation of actually used voltage values.

A ■ Preparation before adjustment

[Replacement with the panel for service is completed.]

Procedures for resetting corrections for change over time

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Set PM/B1-B5 to CLEAR (to clear the pulse meter). / [CPM]

Set HR-MTR to CLEAR (to clear the hour meter). / [CHM]

Turn the unit off. / [POF]

Procedures for stabilizing the panel before adjustment

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Enter the tentative setting value of the replacement panel

Setting Item	Tentative Setting Value
VOL SUS / [VSU ***]	128
VOL OFFSET / [VOF ***]	VOF indication value
VOL RST P / [VRP ***]	VRP indication value
VOL XPOFS1 / [VX1 ***]	085
VOL XPOFS2 / [VX2 ***]	047
VOL YNOFS1 D / [V1F ***]	V1F indication value
VOL YNOFS3 D / [V3F ***]	V3F indication value +0
VOL YNOFS4 D / [V4F ***]	V4F indication value
VOL YNOFSA D / [VYF ***]	128

Note: "+0" shows α .

Display CMB MASK 01 (moving ramp). / [MKC S01]

Select Video 60-Hz sequence. / [VFQ S03]

Perform aging for 30 minutes.

[To the Main flowchart (1)]

* To reflect the results of log clearing for each correction function, the unit must be turned off then back on again. Before adjustment, be sure to turn the unit off then back on again.

Indication example of the adjustment label of service panel

AWU1340 Data **VOF=129**
VRP=031 **V1F=143** **V3F=128+ α**
V4F=172 **Hour Meter** _____ **H**
 Data 08/02/28 Chassis CXX99999
 Time 18:27 Pnl FD4A0808100123

Note: The symbol " α " denotes the adjustment value plus 0.
 * Each setting value described on the adjustment label denotes an indicated data value but not a real voltage value. Therefore, just enter the data value as a setting value.

* To store the VFQ S03 command in memory, transmit it after displaying the mask.

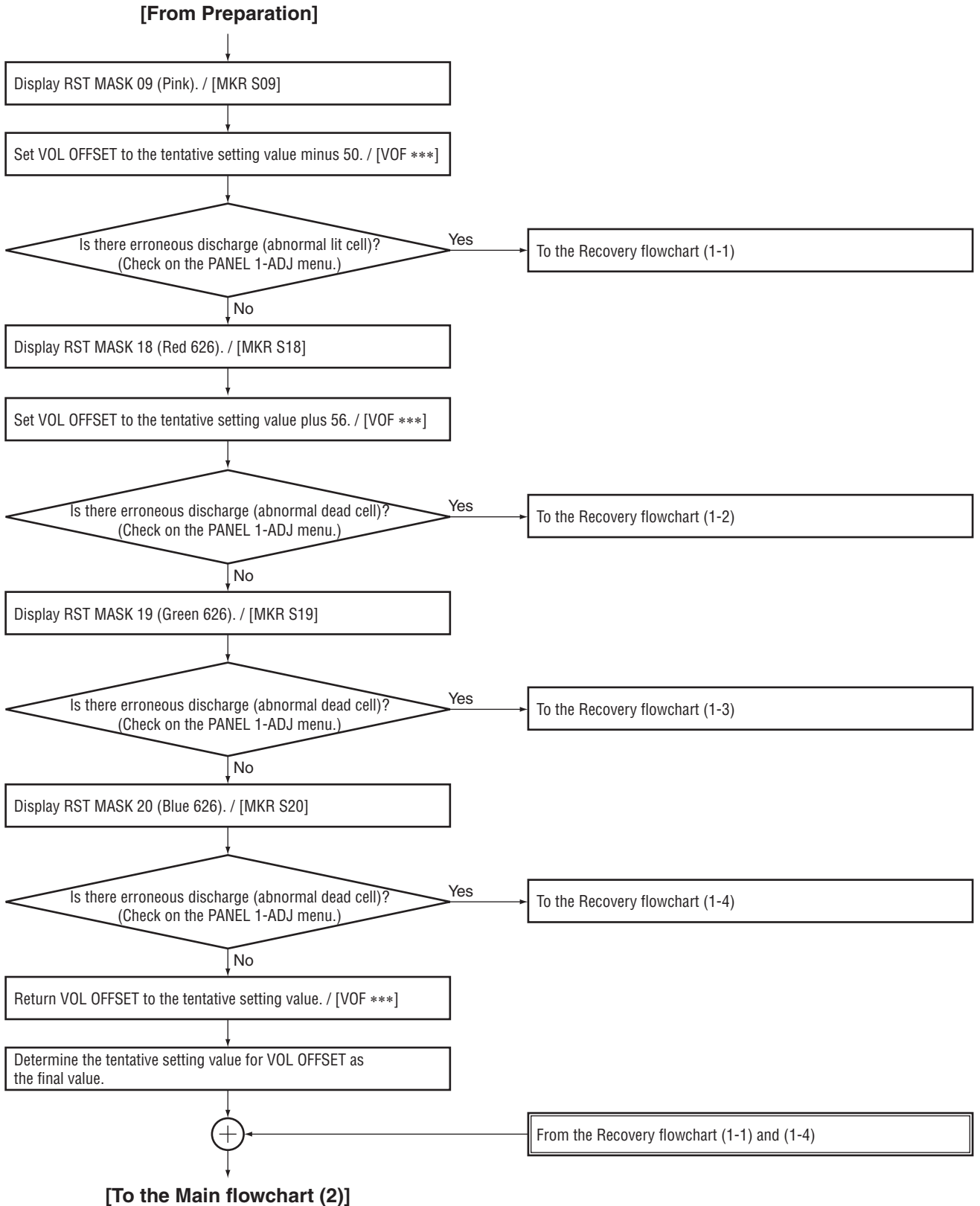
Note:

* When you perform the adjustment with RS232C commands, issue the following commands in addition.

* If the unit is shut down in the middle of performing the adjustment flowchart, reissuing of the command is required.

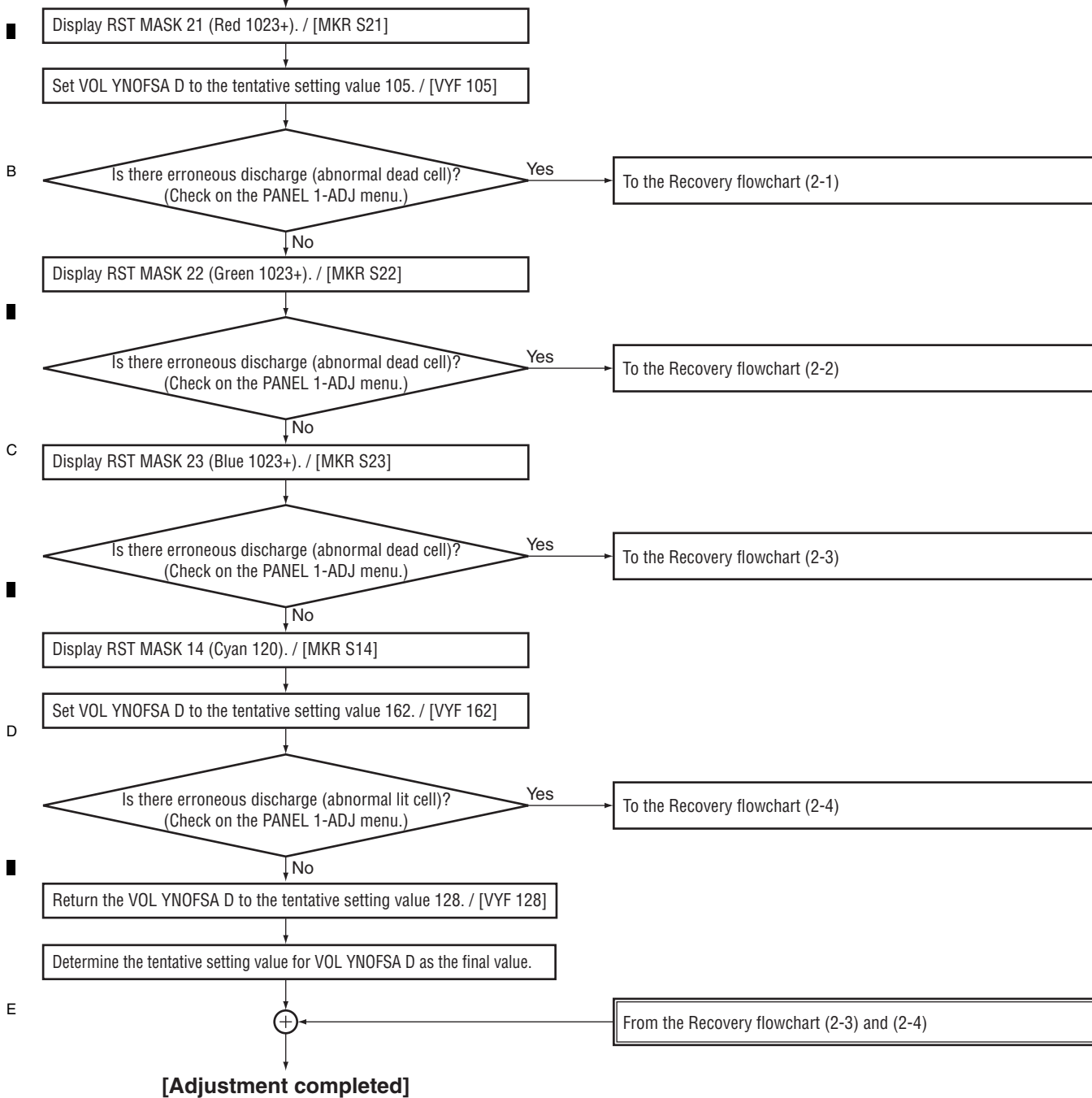
[PAV S00]	: To set panel drive mode to Factory
[VFQ S03]	: To set Drive Sequence to Video 60-Hz
[WBI S01]	: To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
[PGR S00]	: To set the gamma R value to that for Factory mode
[PGG S00]	: To set the gamma G value to that for Factory mode
[PGB S00]	: To set the gamma B value to that for Factory mode
[DIZ S03]	: Dither ON, L dither ON, noise OFF.
[\$1800000001]	: LUT mode ON

■ Main flowchart (1)...Checking VOL OFFSET



A ■ Main flowchart (2)...Checking VOL YNOFSA D

[From the Main flowchart (1)]



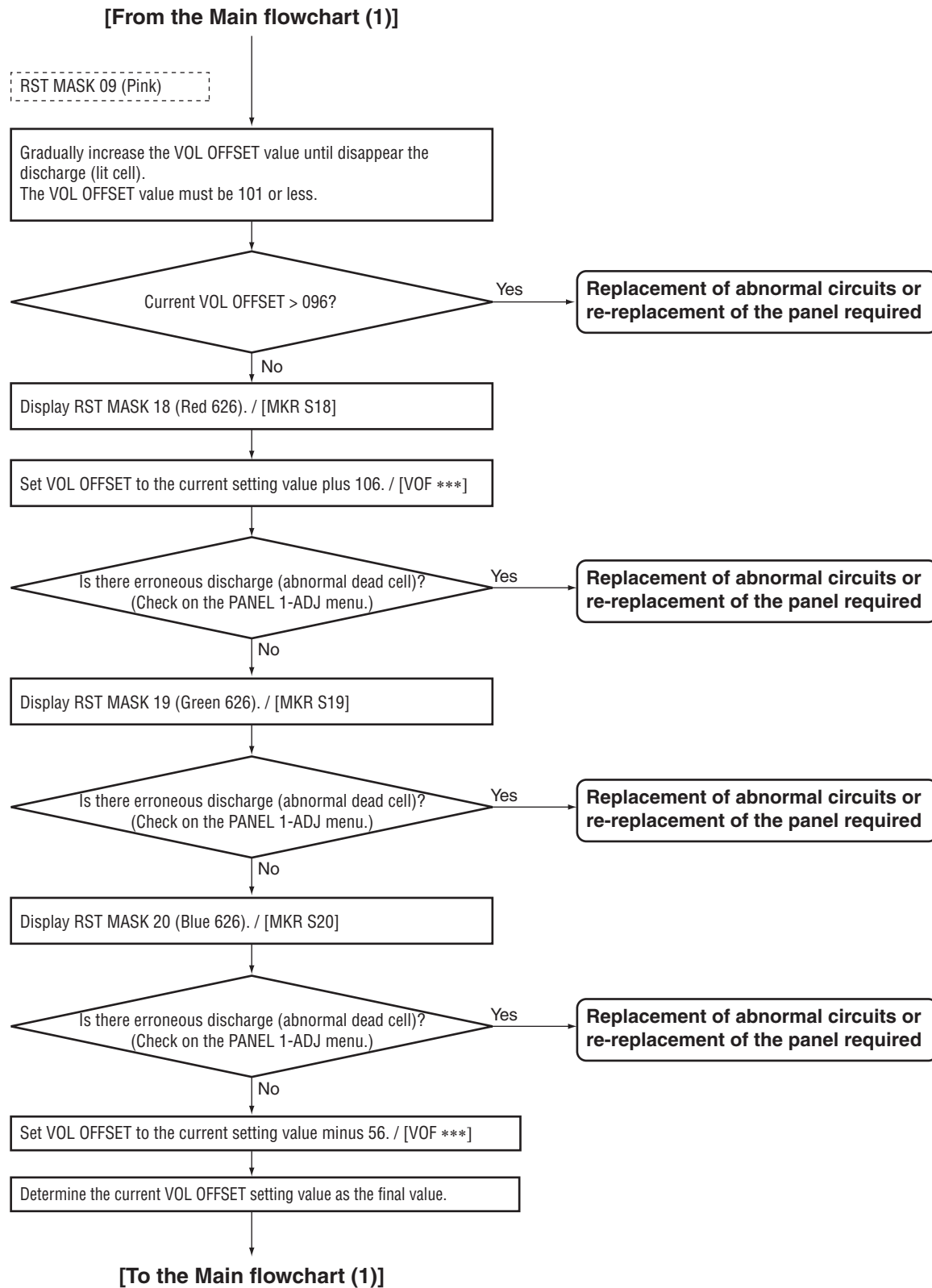
Note:

Make sure that the following values become the final setting values.

VOL SUS *1	VOL XPOSF2 *1
VOL OFFSET	VOL YNOFS1 D *1
VOL RST P *1	VOL YNOFS3 D *1
VOL XPOFS1 *1	VOL YNOFS4 D *1
	VOL YNOFS4 A

*1: The tentative setting value becomes the final value.

Recovery flowchart (1-1)...Changing the VOL OFFSET setting



A

Recovery flowchart (1-2)...Changing the VOL OFFSET setting

[From the Main flowchart (1)]

RST MASK 18 (Red 626)

Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
The VOL OFFSET value must be 152 or greater.

Current VOL OFFSET < 157?

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 19 (Green 626). / [MKR S19]

[To the Recovery flowchart (1-3)]

C

Recovery flowchart (1-3)...Changing the VOL OFFSET setting

[From the Main flowchart (1) / Recovery flowchart (1-2)]

RST MASK 19 (Green 626)

Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
The VOL OFFSET value must be 152 or greater.

Current VOL OFFSET < 157?

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 20 (Blue 626). / [MKR S20]

[To the Recovery flowchart (1-4)]

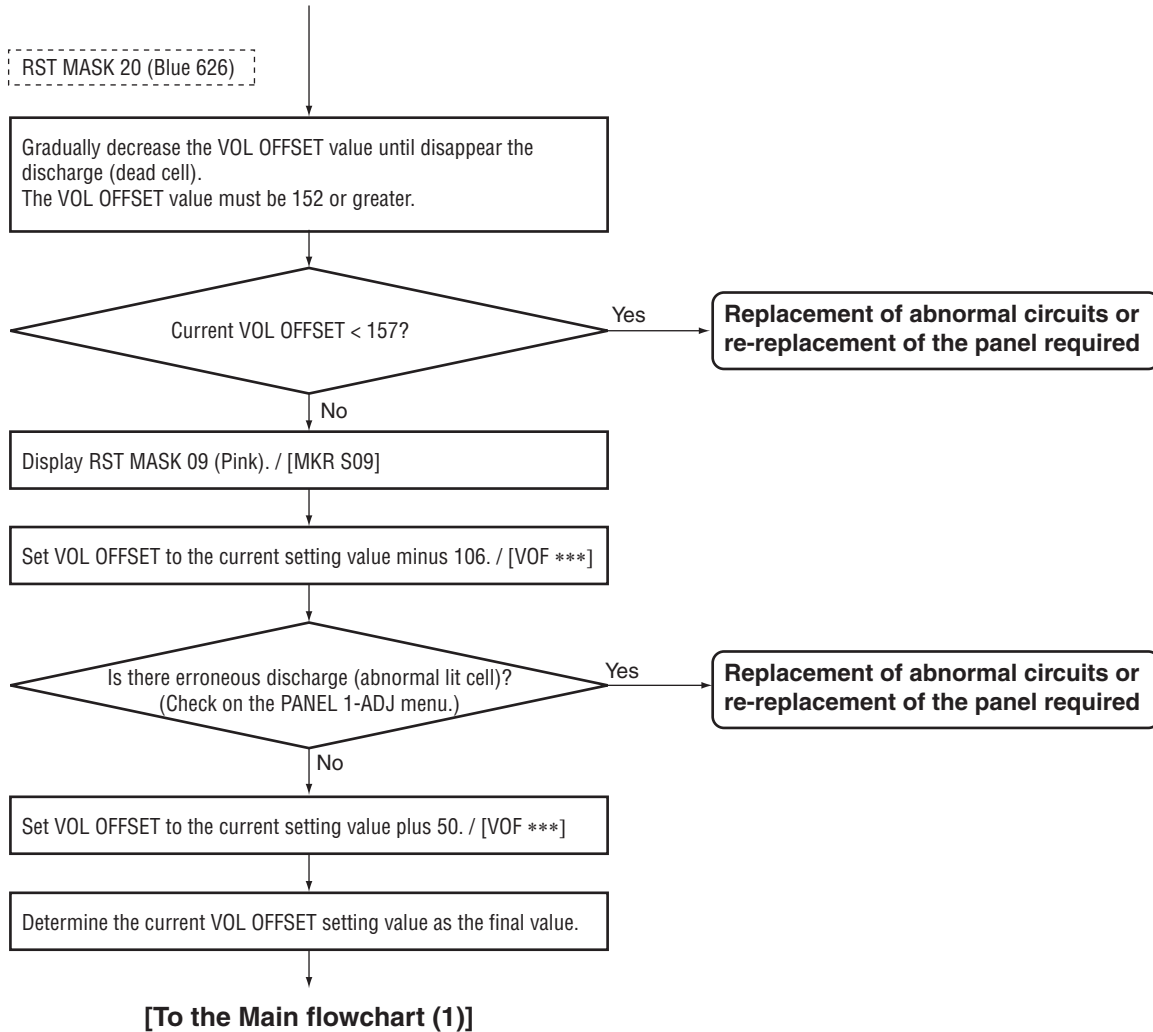
D

E

F

Recovery flowchart (1-4)...Changing the VOL OFFSET setting

[From the Main flowchart (1) / Recovery flowchart (1-3)]



A ■ Recovery flowchart (2-1)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2)]

RST MASK 21 (Red 1023+)

Gradually increase the VOL YNOFSA D value until disappear the discharge (dead cell).
The tentative setting value of VOL YNOFS3 D + current setting value of VOL YNOFSA D must be 255 or less.

Tentative setting value of VOL YNOFS3 D
+ current setting value of VOL YNOFSA D
> 254?

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 22 (Green 1023+). / [MKR S22]

[To the Recovery flowchart (2-2)]

C

D ■ Recovery flowchart (2-2)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2) / Recovery flowchart (2-1)]

RST MASK 22 (Green 1023+)

Gradually increase the VOL YNOFSA D value until disappear the discharge (dead cell).
The tentative setting value of VOL YNOFS3 D + current setting value of VOL YNOFSA D must be 255 or less.

Tentative setting value of VOL YNOFS3 D
+ current setting value of VOL YNOFSA D
> 254?

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

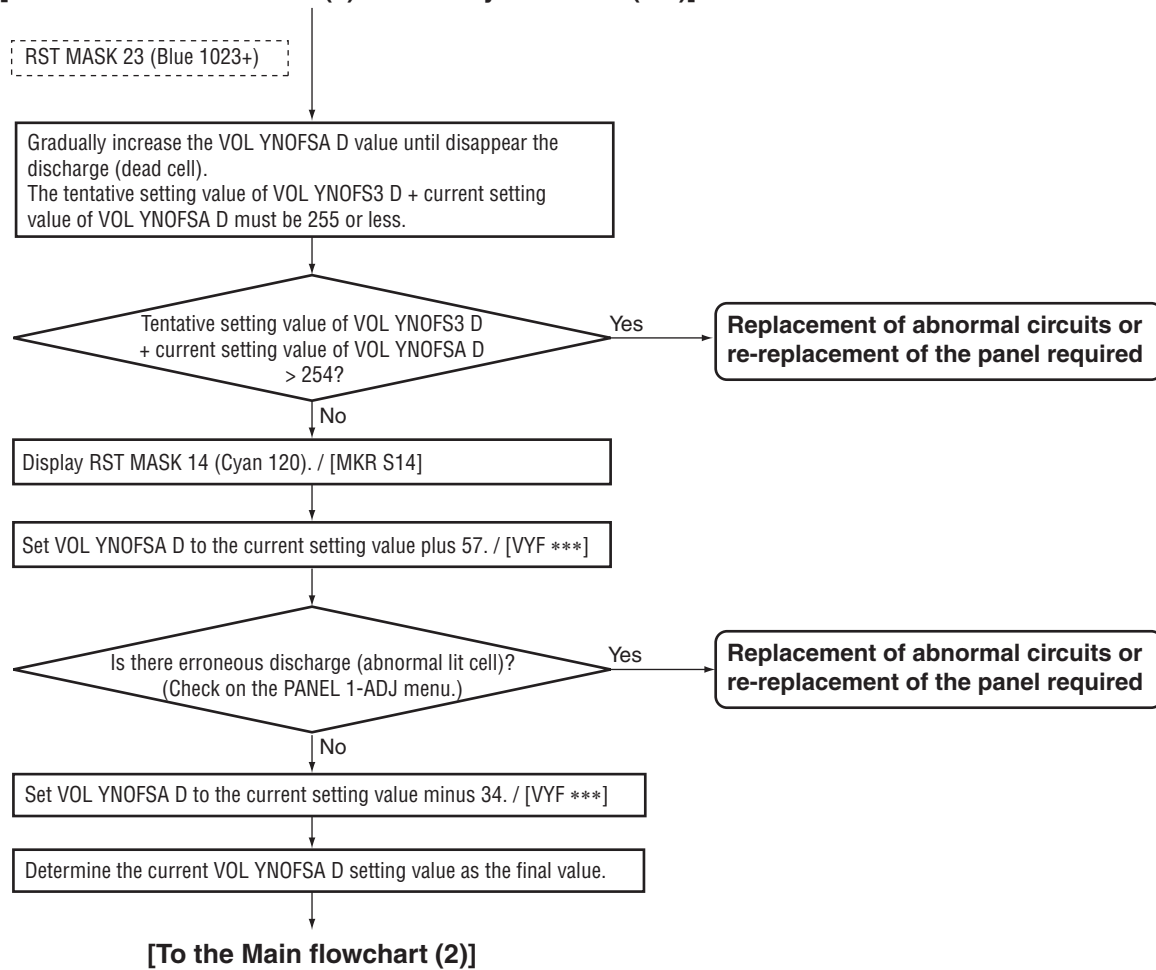
Display RST MASK 23 (Blue 1023+). / [MKR S23]

[To the Main flowchart (2-3)]

F

Recovery flowchart (2-3)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2) / Recovery flowchart (2-2)]



Recovery flowchart (2-4)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2)]

RST MASK 14 (Cyan 120)

Gradually decrease the VOL YNOFSA D value until disappear the discharge (lit cell).
The tentative setting value of VOL YNOFS3 D + current setting value of VOL YNOFSA D must be 266 or greater.

Tentative setting value of VOL YNOFS3 D
+ current setting value of VOL YNOFSA D
< 268?

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 21 (Red 1023+). / [MKR S21]

Set VOL YNOFSA D to the current setting value minus 57. / [VYF ***]

Is there erroneous discharge (abnormal dead cell)?
(Check on the PANEL 1-ADJ menu.)

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 22 (Green 1023+). / [MKR S22]

Is there erroneous discharge (abnormal dead cell)?
(Check on the PANEL 1-ADJ menu.)

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 23 (Blue 1023+). / [MKR S23]

Is there erroneous discharge (abnormal dead cell)?
(Check on the PANEL 1-ADJ menu.)

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Set VOL YNOFSA D to the current setting value plus 23. / [VYF ***]

Determine the current VOL YNOFSA D setting value as the final value.

[To the Main flowchart (2)]

8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED

Waveform adjustments required when replacing the following parts of the X DRIVE and Y DRIVE Assys.

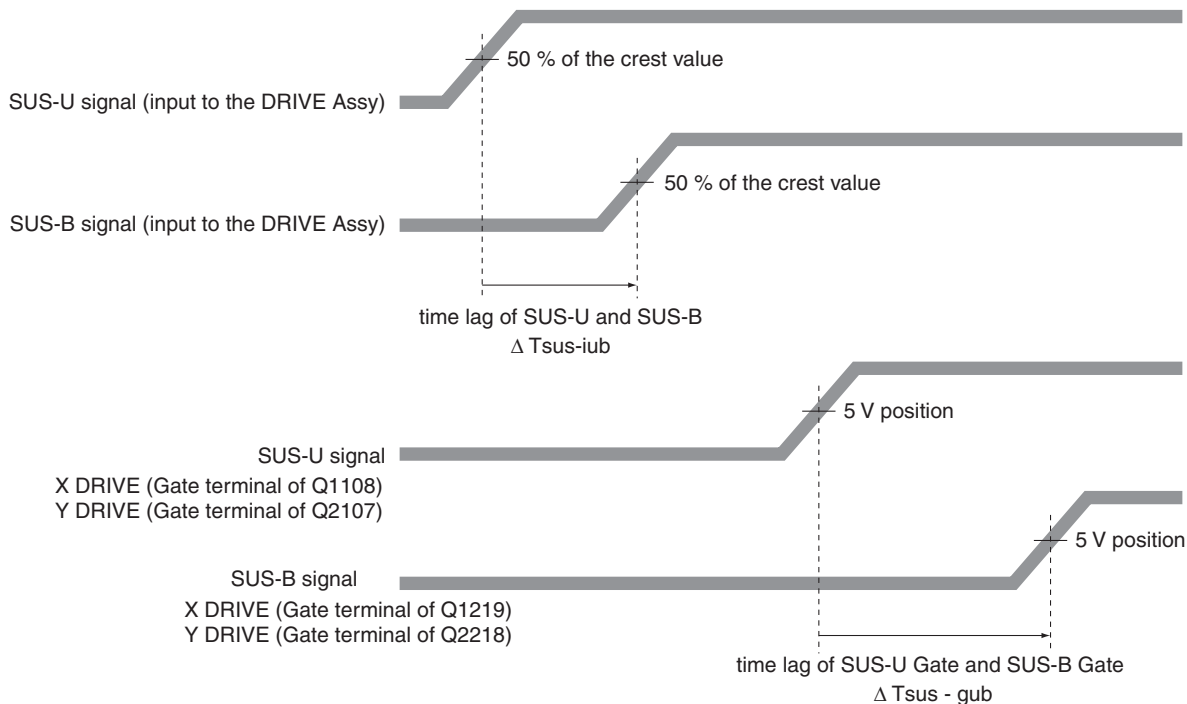
Assy Name	Ref No.	Part Name	Part Category	Remarks
X DRIVE Assy	IC1101	PS9818-1(P)	Photo Coupler	
	IC1104	TND307TD	FET Driver	
	IC1204	PS9818-2(P)	Photo Coupler	
	IC1209	TND307TD	FET Driver	
Y DRIVE Assy	IC2101	PS9818-1(P)	Photo Coupler	
	IC2103	TND307TD	FET Driver	
	IC2201	PS9818-1(P)	Photo Coupler	
	IC2203	TND307TD	FET Driver	

TIME LAG ADJUSTMENT OF THE CONTROL SIGNAL (SUS-B)

- Measure the time lag for the SUS-U signal to the SUS-B signal.
- Check the time lag for the SUS-B Gate signal to the SUS-U Gate signal.
Adjust the variable control so that the time lag of Gate becomes "time lag of input signal + $\alpha \pm 5$ nsec."

Note:

- Be sure to set the Drive to OFF for adjustment.
- For details on measuring points of waveform, see the figure below.



Time lag of SUS-U Gate and SUS-B Gate : $\Delta Tsus - gub$

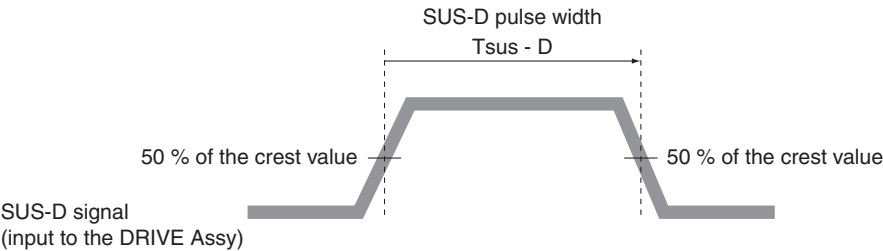
Adjust so that " $\Delta Tsus - gub = \Delta Tsus - iub + \alpha \pm 5$ nsec," using the variable controls shown in the table below:

Assy	VR	Value of α
X DRIVE Assy	VR1002	60 nsec
Y DRIVE Assy	VR2002	60 nsec

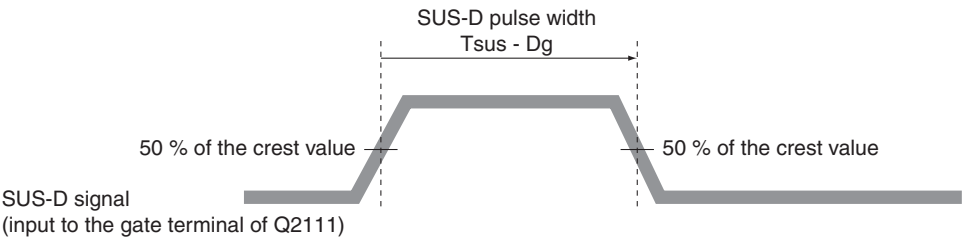
A ■ **DELAY ADJUSTMENT OF THE CONTROL SIGNAL (SUS-D)**

- ① Measure the pulse width of the SUS-D signal.
 - ② Check the pulse width of the SUS-D input signal (gate terminal of Q2111).
Adjust the variable control so that the pulse width of the SUS-D input signal (gate terminal of Q2111) becomes the same pulse width ± 5 nsec as the SUS-D signal.
- **Note:** • For details on measuring points of waveform, see the figure below.

B



C



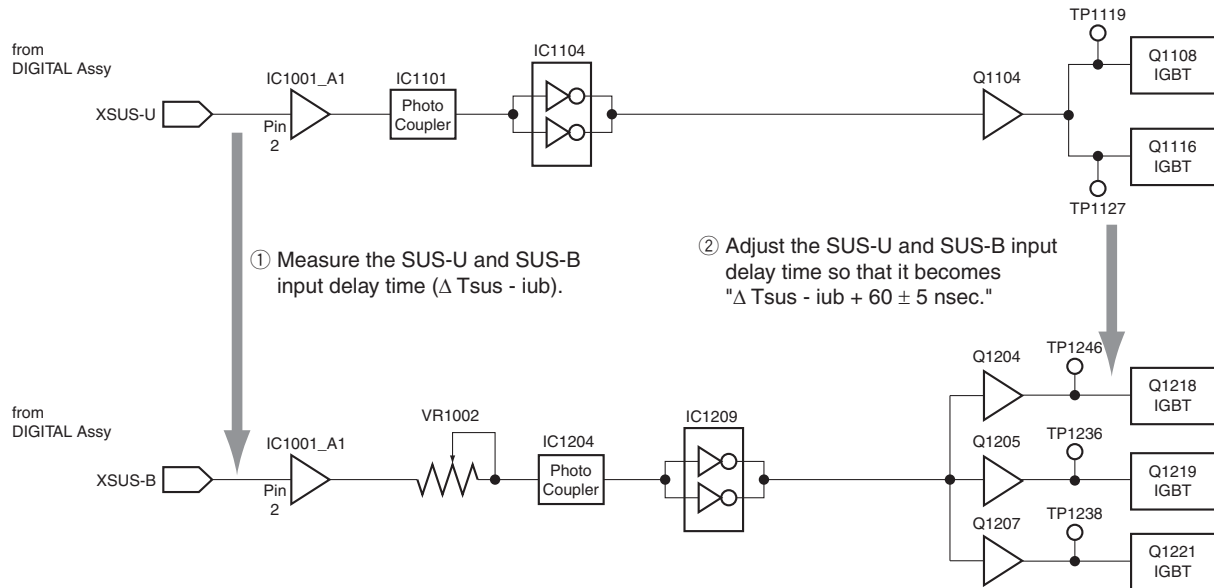
SUS-D pulse width: $T_{sus} - Dg$

Adjust so that " $T_{sus} - Dg = T_{sus} - D \pm 5$ nsec," using the variable control shown in the table below:

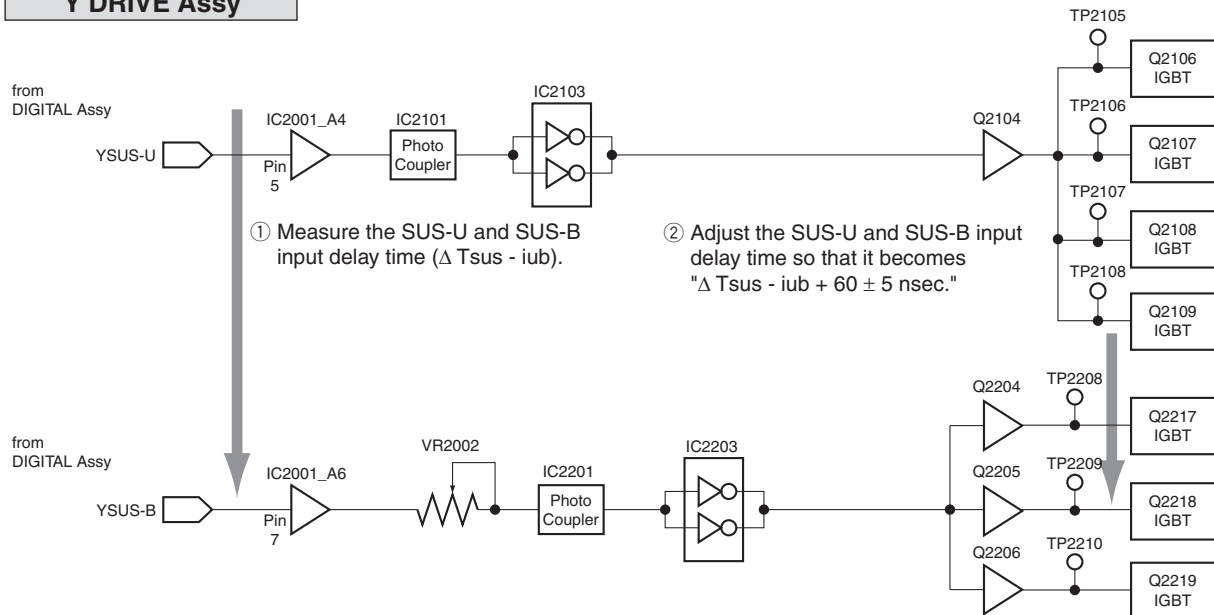
Assy	VR
Y DRIVE Assy	VR2001

SUS-B ADJUSTMENT

X DRIVE Assy

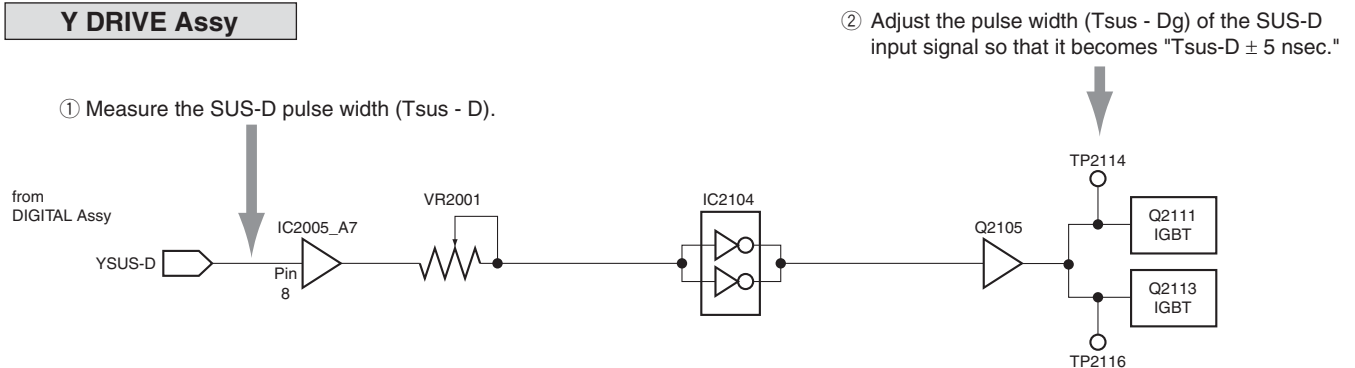


Y DRIVE Assy



SUS-D ADJUSTMENT

Y DRIVE Assy



1234

8.6 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED

A

Explanation

To correct differences in IC output levels and signal levels upon AD conversion, adjustment is performed throughout the path. Therefore, if any of the following devices is replaced, the entire adjustment must be performed again.

■

IC8001	AV_SW	R2S11006FT
IC8101	RGB_SW	R2S11001FT
IC4702	VDEC	CM0048AF
IC4801	ADC	AD9985KSTZ-110

B

Adjustment Procedure

Perform the "AUTO ADJUSTMENT" on the "6.2 [4] INITIALIZE".

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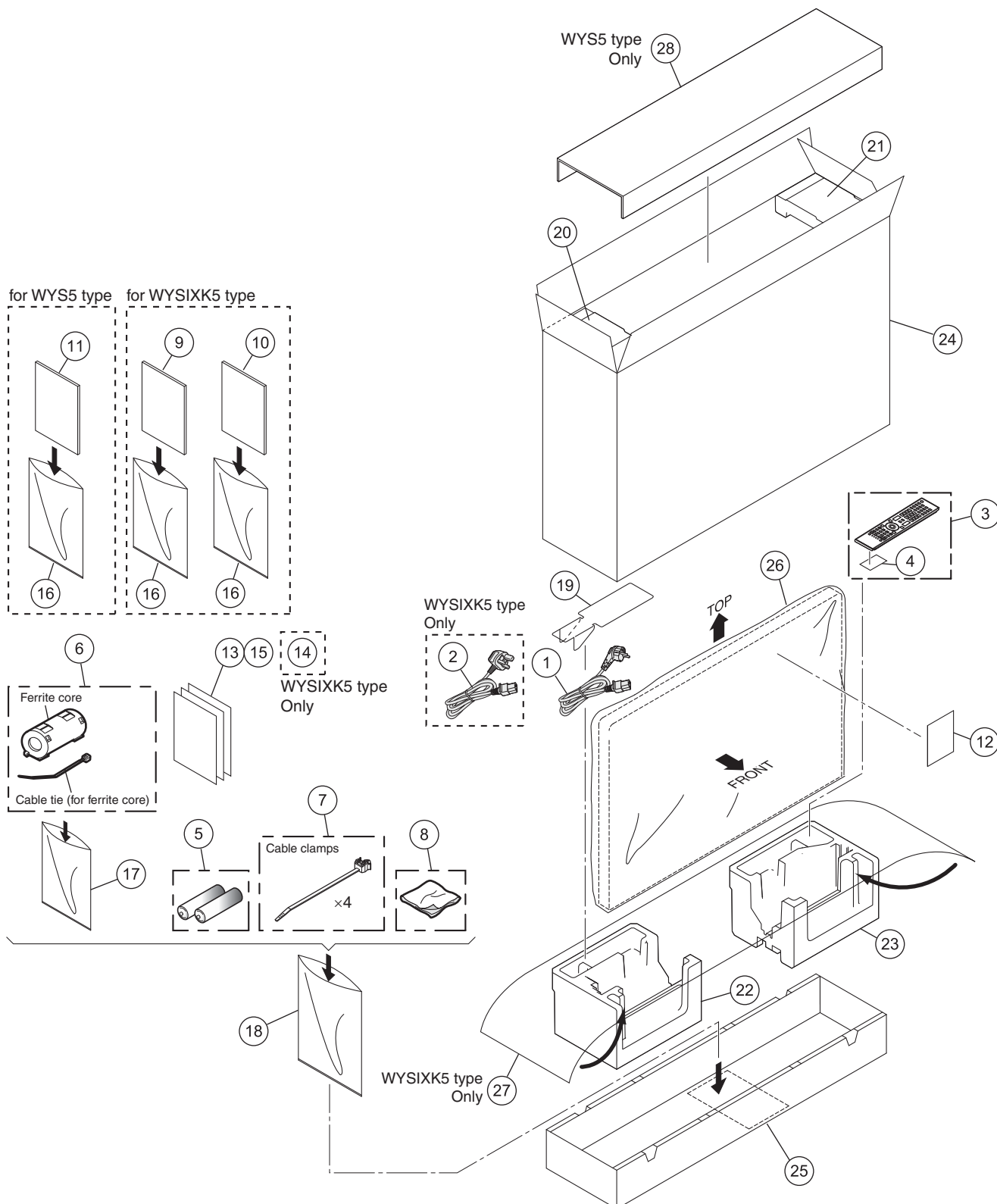
■

9. EXPLODED VIEWS AND PARTS LIST

NOTES: ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.

- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Screws adjacent to ▼ mark on product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

9.1 PACKING SECTION



(1) PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
⚠	1	Power Cable (2 m)	ADG1214		13	Cleaning Caution	See Contrast table (2)
⚠	2	Power Cable (2 m)	See Contrast table (2)		14	Block Diagram (509)	See Contrast table (2)
	3	Remote Control Unit	AXD1564	NSP	15	Warranty Card EU	See Contrast table (2)
	4	Battery Cover (Black)	AZN2784		16	Vinyl Bag	AHG1310
NSP	5	Dry Cell Battery (R6, AA)	VEM1031		17	Vinyl Bag	AHG1337
⚠	6	Ferrite Core	ATX1039	NSP	18	Vinyl Bag	AHG1340
	7	Binder Assy	AEC2158		19	Power Cord Lid (5090)	See Contrast table (2)
	8	Cleaning Cloth	AED1285		20	Pad (509 T-L EU)	See Contrast table (2)
	9	Operating Instructions (English / French / German)	See Contrast table (2)		21	Pad (509 T-R EU)	See Contrast table (2)
					22	Pad (509 B-L EU)	See Contrast table (2)
	10	Operating Instructions (Italian / Dutch / Spanish / Russian)	See Contrast table (2)		23	Pad (509 B-R EU)	See Contrast table (2)
	11	Operating Instructions (Russian)	See Contrast table (2)		24	Upper Carton (5090)	See Contrast table (2)
	12	Caution Card	See Contrast table (2)		25	Under Carton (5090)	See Contrast table (2)
					26	Mirror Mat	AHG1284
					27	HD Sheet	See Contrast table (2)
					28	Carton Board (509)	See Contrast table (2)

(2) CONTRAST TABLE

PDP-LX5090/WYSIXK5 and WYS5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX5090 /WYSIXK5	PDP-LX5090 /WYS5
⚠	2	Power Cable (2 m)	ADG1223	Not used
	9	Operating Instructions (English / French / German)	ARE1492	Not used
	10	Operating Instructions (Italian / Dutch / Spanish / Russian)	ARC1606	Not used
	11	Operating Instructions (Russian)	Not used	ARC1618
	12	Caution Card	ARM1310	ARM1232
	13	Cleaning Caution PTK	ARM1311	Not used
	13	Cleaning Caution (11L)	Not used	ARM1283
	14	Block Diagram (509)	ARY1210	Not used
NSP	15	Warranty Card EU	ARY7112	ARY7110
	19	Power Cord Lid (5090)	AHC1113	AHC1114
	20	Pad (509 T-L EU)	AHA2714	AHA2727
	21	Pad (509 T-R EU)	AHA2715	AHA2728
	22	Pad (509 B-L EU)	AHA2716	AHA2729
	23	Pad (509 B-R EU)	AHA2726	AHA2730
	24	Upper Carton (5090)	AHD3669	AHD3670
	25	Under Carton (5090)	AHD3672	AHD3673
	27	HD Sheet	AHG1416	Not used
	28	Carton Board (509)	Not used	AHB1303

9.2 REAR SECTION

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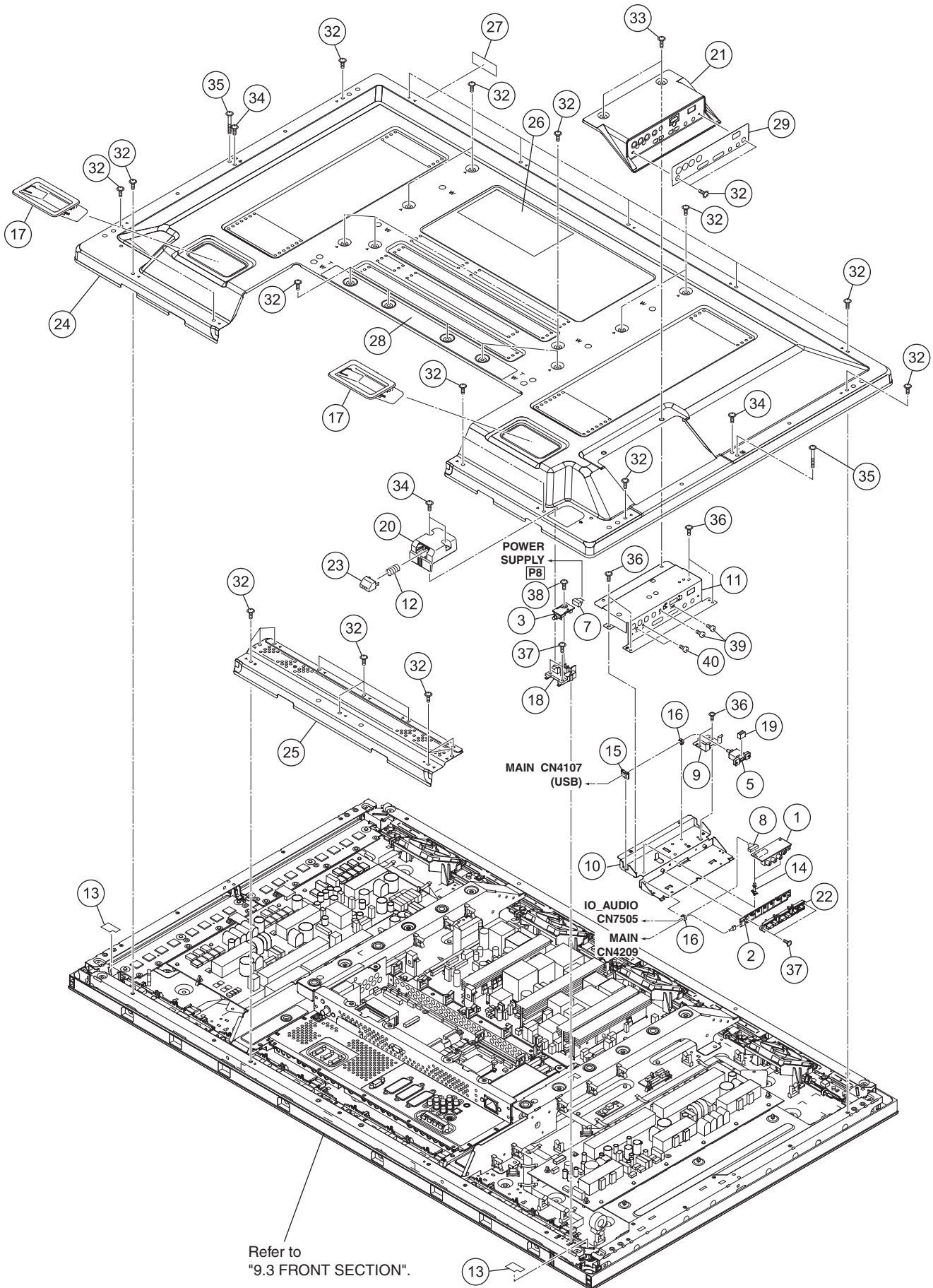
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(1) REAR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	SIDE IO Assy	AWW1358	21	Side Input Cover	AMR3754
2	SIDE KEY Assy	AWW1361	22	Operation Button	AAC1569
3	POWER SW Assy	AWW1366	23	Power Button (508F)	AAD4152
4	•••••		24	Rear Case (509)	ANE1671
5	USB Cable (J301)(120 cm)	ADF1034	25	Under Cover (509)	ANE1672
6	•••••		NSP 26	Name Label (LX5090)	See Contrast table (2)
7	3P Housing Wire (J103)	ADX3630	27	Serial Sheet	AAX3143
8	11P Housing Wire (J118)	ADX3644	28	Label A (ES)	AAX3568
9	USB Holder	ANG3134	29	Side Label (EU)	AAK2932
10	Side Input Base	ANG3215	30	•••••	
11	Side Input Shield	ANG3216	31	•••••	
12	Coil Spring	ABH1125	32	Screw (M3 x 6)	ABA1377
13	Sensor Cushion B (428)	AEB1486	33	Screw (M3 x 10)	ABA1378
NSP 14	PCB Spacer	AEC1084	34	Screw (3 x 8 P)	ABA1379
15	Edge Saddle	AEC1571	35	Screw (3 x 25 P)	ABA1380
16	Mini Clamp	AEC1971	36	Screw	AMZ30P060FTB
17	Inner Grip Assy	See Contrast table (2)	37	Screw	AMZ30P080FTB
18	Power Button Support	AMR3763	38	Screw	APZ30P080FTB
⚠ 19	USB Gasket	ANK1962	39	Screw	BMZ30P080FTB
20	Power Button Case	AAK2927	40	Screw	BPZ30P080FTB

(2) CONTRAST TABLE

PDP-LX5090/WYSIXK5 and WYS5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX5090 /WYSIXK5	PDP-LX5090 /WYS5
	17	Inner Grip Assy	AMR3693	AMR3434
NSP	26	Name Label (LX5090)	AAL3033	AAL3035

1 2 3 4

9.3 FRONT SECTION

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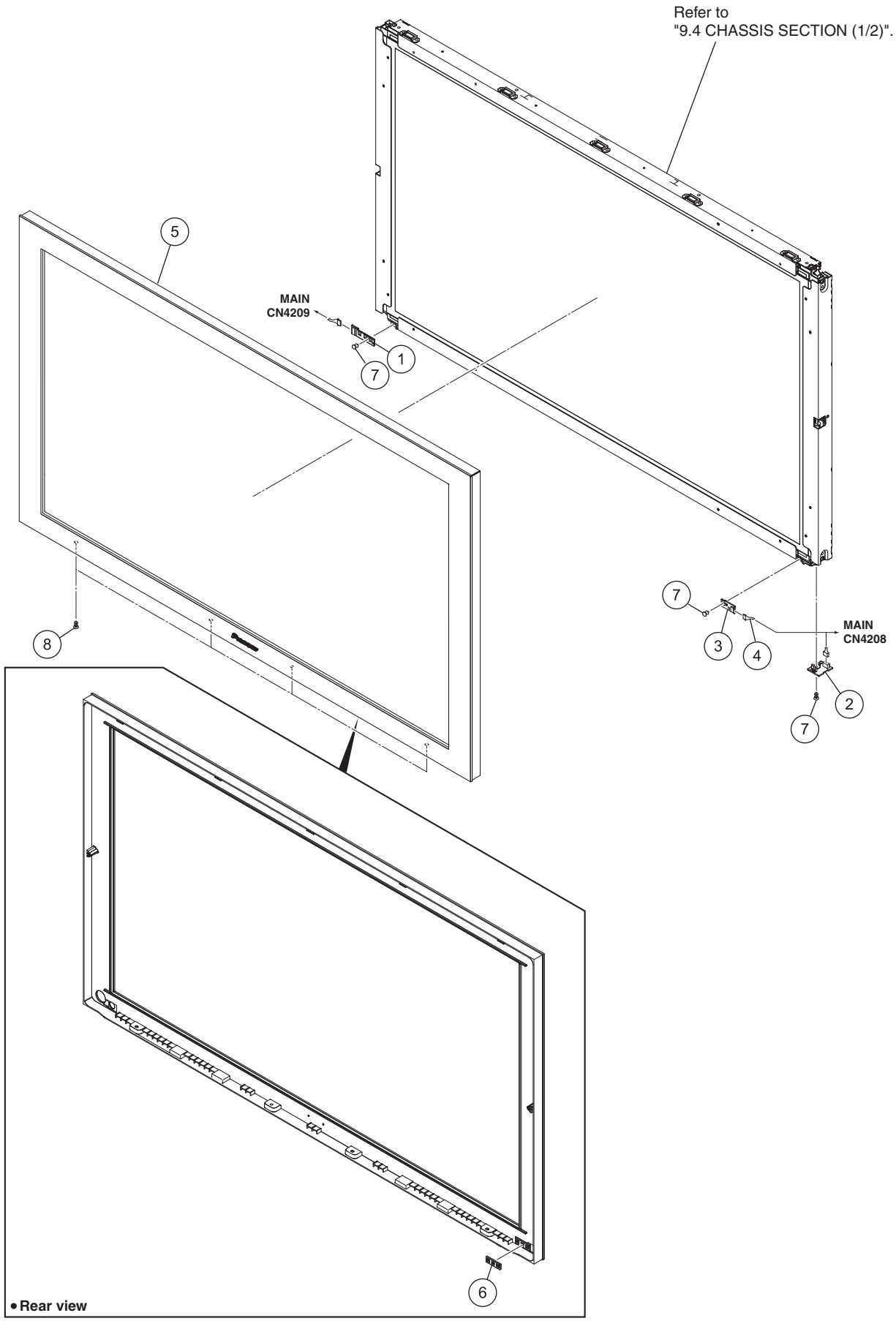
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FRONT SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	LED Assy	AWW1362
2	IR Assy	AWW1363
3	RLS Assy	AWW1365
4	7/3/3P Housing Wire (J117)	ADX3643
5	Front Bezel (509TVE)	AMB3087
6	Blind Cushion (508F)	AEB1479
7	Nylon Rivet	AEC1671
8	Rivet (Plastic)	AEC1877

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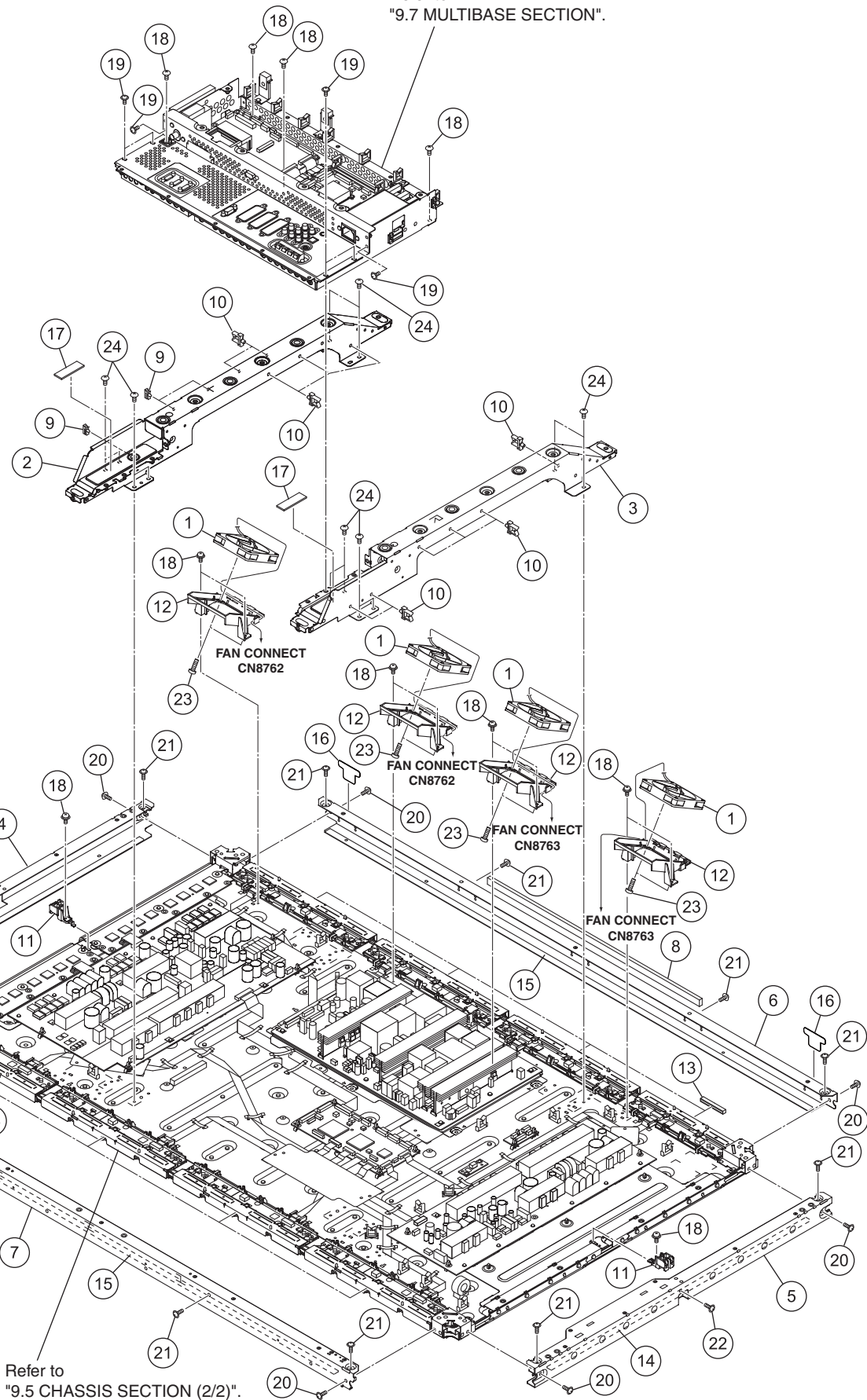
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9.4 CHASSIS SECTION (1/2)



Cleaning paper :
GED-008

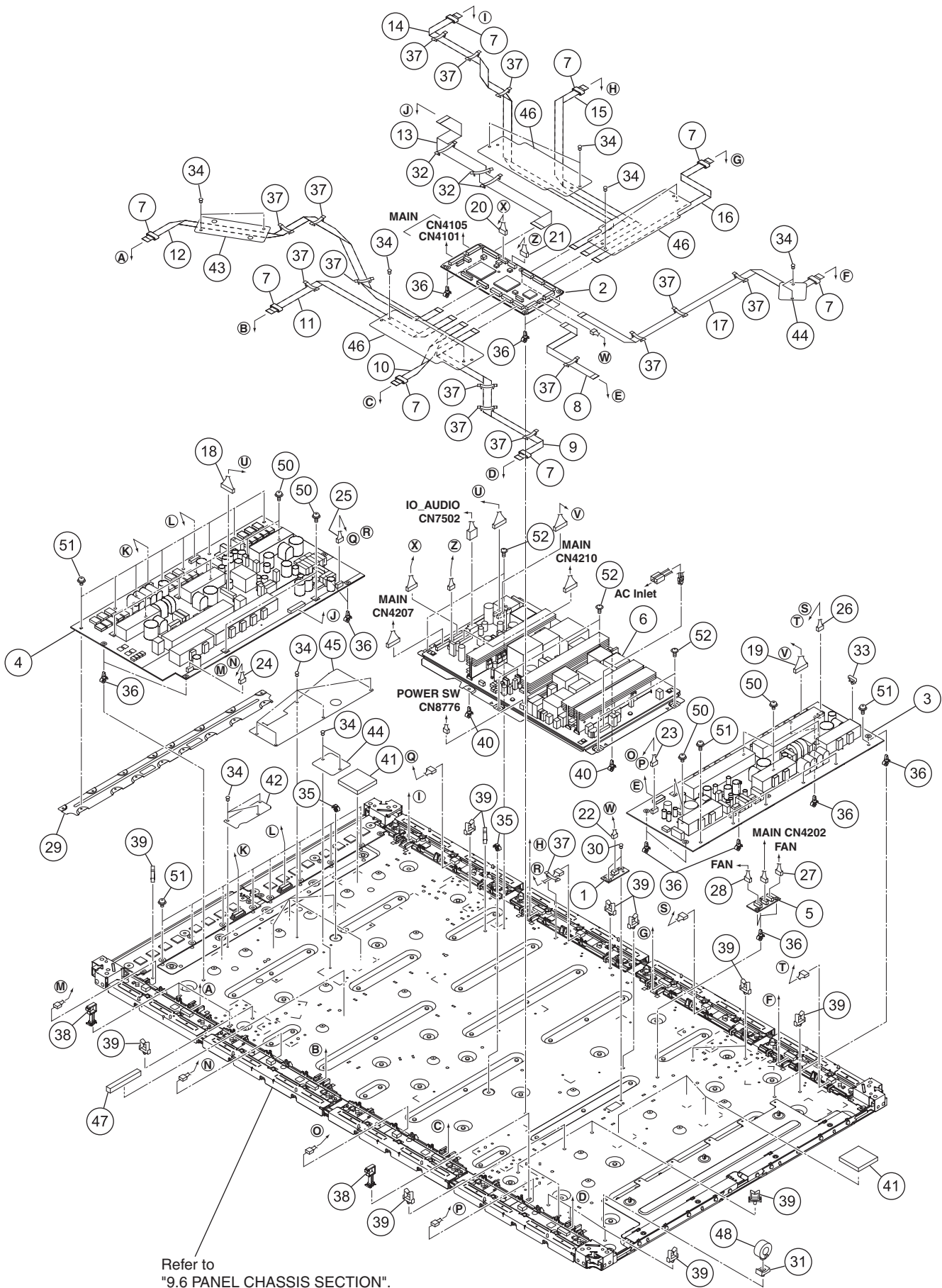
Refer to
"9.7 MULTIBASE SECTION".



CHASSIS SECTION (1/2) PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
⚠ 1	DC FAN Motor 80 x 15L	AXM1065
2	Sub Frame L Assy (50)	ANA2137
3	Sub Frame R Assy (50)	ANA2140
⚠ 4	F. Chassis VL Assy 50	ANA2142
⚠ 5	F. Chassis VR Assy 50	ANA2151
⚠ 6	F. Chassis HT Assy 50	ANA2144
⚠ 7	F. Chassis HB 50	ANA2188
8	Waterproof Cushion	AEB1495
9	Wire Clip	AEC1948
10	Reuse Wire Saddle	AEC2134
11	Support Bracket	AMR3762
12	FAN Bracket 80	AMR3787
⚠ 13	Gasket ADH-FCH	ANK1850
⚠ 14	Front Gasket V50	ANK1963
⚠ 15	Front Gasket H50	ANK1964
16	FC Gate Sheet	AMR3906
17	Stand Cushion	AED1340
18	Screw	ABA1351
19	Screw (M3 x 6)	ABA1377
20	Screw	ABZ30P080FTC
21	Screw	AMZ30P060FTB
22	Screw	APZ30P080FTB
23	Screw	PPZ50P100FTB
24	Screw	TBZ40P060FTC

9.5 CHASSIS SECTION (2/2)



CHASSIS SECTION (2/2) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
1	SENSOR Assy	AWW1340	46	FFC Sheet	AMR3893	
2	50F DIGITAL Assy	AWW1347	⚠ 47	Gasket (10 x 10 x 80)	ANK1974	A
3	50F X DRIVE Assy	AWV2546	⚠ 48	Ferrite Core (L1)	ATX1044	
4	50F Y DRIVE Assy	AWV2547	49	•••••		
5	FAN CONNECT Assy	AWW1364	50	Screw	ABA1351	
⚠ 6	POWER SUPPLY Unit	AXY1200	51	Screw	ABA1364	
⚠ 7	Ferrite Core (F1 - F8)	ATX1072	52	Screw	ABZ30P060FTB	■
8	Flexible Cable (J201)	ADD1540				
9	Flexible Cable (J202)	ADD1541				
10	Flexible Cable (J203)	ADD1542				
11	Flexible Cable (J204)	ADD1543				B
12	Flexible Cable (J205)	ADD1544				
13	Flexible Cable (J206)	ADD1545				
14	Flexible Cable (J207)	ADD1546				
15	Flexible Cable (J208)	ADD1547				
16	Flexible Cable (J209)	ADD1548				■
17	Flexible Cable (J210)	ADD1549				
18	12P/11P Housing Wire (J101)	ADX3628				
19	11P Housing Wire (J102)	ADX3629				
20	10P Housing Wire (J106)	ADX3632				C
21	6P Housing Wire (J107)	ADX3633				
22	5P Housing Wire (J108)	ADX3634				
23	5/3/3P Housing Wire (J112)	ADX3638				
24	5/3/3P Housing Wire (J113)	ADX3639				
25	5/3/3P Housing Wire (J114)	ADX3640				■
26	5/3/3P Housing Wire (J115)	ADX3641				
27	6/3/3P Housing Wire (J120)	ADX3646				
28	7/3/3P Housing Wire (J121)	ADX3647				
29	Plate Y (509)	ANG3127				D
30	Nylon Rivet	AEC1671				
31	Ferrite Core Holder	AEC1818				
32	Flat Clamp	AEC1879				
33	Wire Clip	AEC1948				
34	Nylon Rivet	AEC2089				■
35	Reuse Card Spacer	AEC2117				
36	PCB Spacer (Reuse)	AEC2122				
37	Flat Clamp	AEC2132				
38	Reuse Fastener	AEC2133				E
39	Reuse Wire Saddle	AEC2134				
40	Reuse PCB Spacer 4.5	AEC2148				
41	Drive Sheet	AEH1155				
42	Y Drive Sheet B	AMR3769				■
43	Y Drive Sheet C	AMR3783				
44	FAN Sheet	AMR3786				
45	Y Drive Sheet A (M)	AMR3881				

1 2 3 4

9.6 PANEL CHASSIS SECTION

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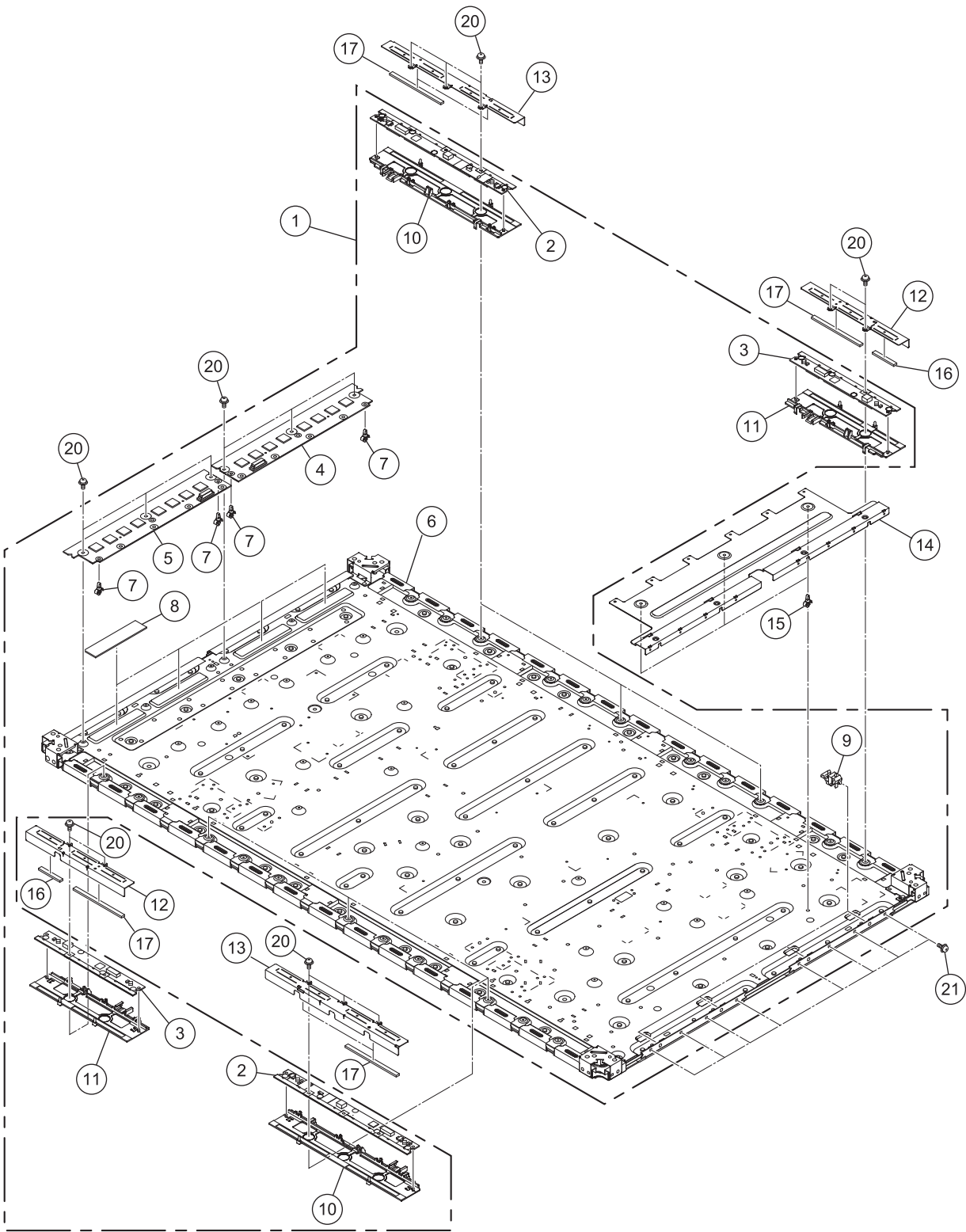
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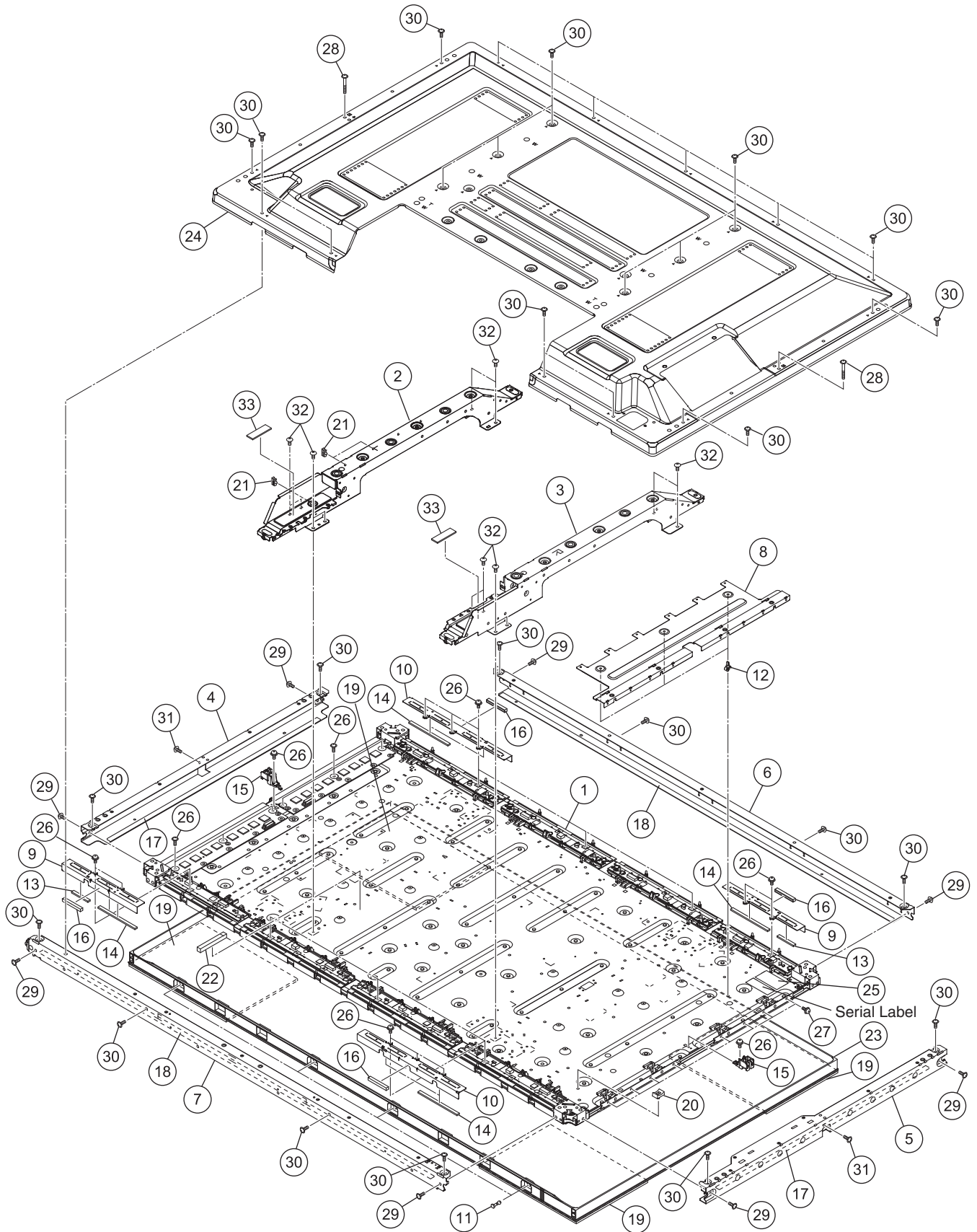
MULTIBASE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
⚠ 1	MAIN Assy	AWV2555	⚠ 49	Gasket (ES)	ANK1978	
2	IO_AUDIO Assy	AWW1354	⚠ 50	Gasket (10 x 8 x 15)	ANK1982	A
3	PC Assy	AWW1359	51	Nylon Rivet	AEC1671	
⚠ 4	Ferrite Core (F11, F12)	ATX1048	52	Card Lid	AMR3772	
⚠ 5	AC Inlet (CN1)	AKP1336	53	•••••		
6	Flexible Cable (J211)	ADD1533	54	•••••		
7	Flexible Cable (J212)	ADD1534	55	Hexagon Headed Screw	ABA1382	
8	Flexible Cable (J213)	ADD1535	56	Screw (M3 x 6)	ABA1377	
9	Flexible Cable (J214)	ADD1536	57	Screw	AMZ30P060FTB	
10	Flexible Cable (J215)	ADD1537	58	Screw	BMP40P080FSN	
⚠ 11	Housing Wire (J105)	ADX3608	59	Screw	BMZ30P060FTB	B
⚠ 12	Housing Wire (J104)	ADX3631	60	Screw	BPZ30P080FTB	
13	14P Housing Wire (J109)	ADX3635	61	Screw	PMB30P060FNI	
14	15P Housing Wire (J110)	ADX3636				
15	5P Housing Wire (J111)	ADX3637				
16	10/6/4P Housing Wire (J116)	ADX3642				
17	4P Housing Wire (J119)	ADX3645				
18	Rubber Sheet	AEB1498				
19	Cushion	AEB1499				
20	Wire Saddle	AEC1745				C
21	Wire Saddle	AEC1797				
22	Circuit Board Spacer	AEC1872				
23	Ferrite Stopper	AEC1981				
24	Reuse PCB Spacer 4.5	AEC2136 or AEC2161				
25	PCB Spacer	AEC2146				
26	•••••					
27	Clamp	AEC2156				
28	Edge Holder	AEC2159				
29	Silicon Sheet MTB A	AEH1174				D
30	Silicon Sheet MTB B	AEH1175				
31	•••••					
32	Sleeve	AMR3771				
33	•••••					
34	MTB Assy	ANA2150				
35	1..T Panel ES Assy	ANC2470				
36	2..Label B1 (ES)	AAX3573				
37	2..Label B2 (ES)	AAX3584				
38	2..Terminal Panel (ES)	ANC2465				E
39	Tuner Panel (ES)	ANG3161				
40	•••••					
41	Earth BKT A	ANG3182				
42	•••••					
43	•••••					
44	•••••					
⚠ 45	Gasket (10 x 10 x 80)	ANK1974				
46	•••••					
⚠ 47	Gasket (E)	ANK1981				F
48	•••••					

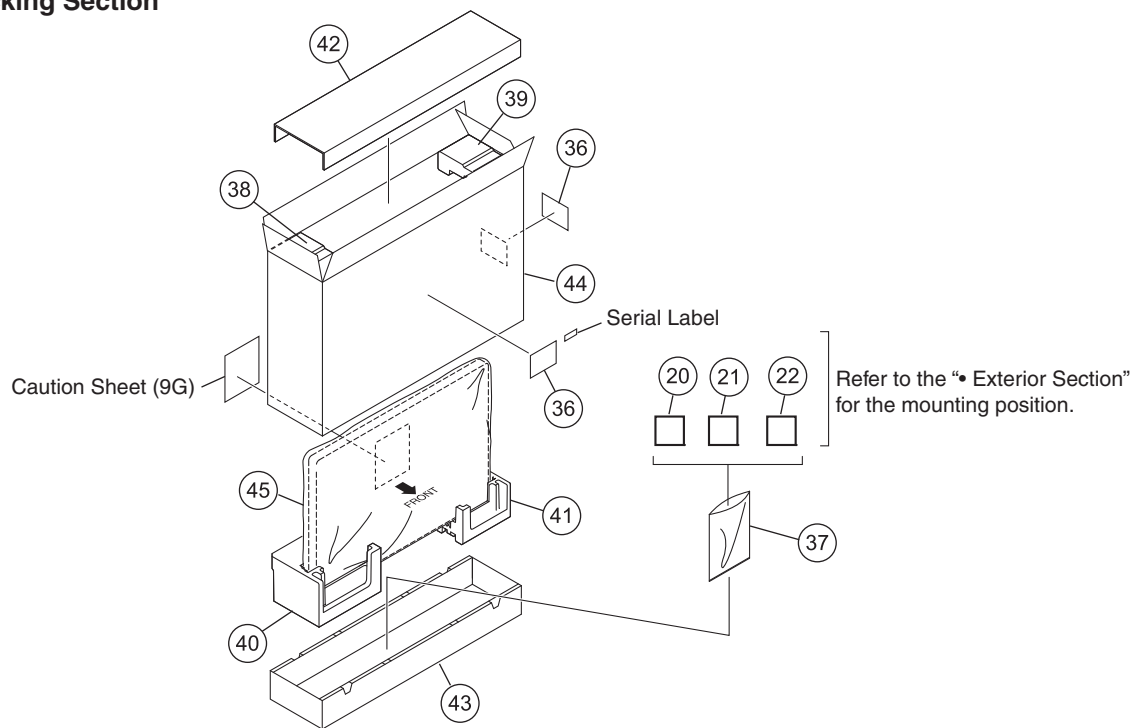
9.8 PDP SERVICE ASSY

PDP SERVICE ASSY 509FE : AWU1342

● Exterior Section



● Packing Section



PDP SERVICE ASSY PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	P. Chassis (509FE) Assy	AWU1297	26	Screw	ABA1351
2	Sub Frame L Assy (50)	ANA2137	27	Screw	ABA1364
3	Sub Frame R Assy (50)	ANA2140	28	Screw (3 x 25 P)	ABA1380
4	F. Chassis VL Assy 50	ANA2142	29	Screw	ABZ30P080FTC
5	F. Chassis VR Assy 50	ANA2151	30	Screw	AMZ30P060FTB
6	F. Chassis HT Assy 50	ANA2144	31	Screw	APZ30P080FTB
7	F. Chassis HB 50	ANA2188	32	Screw	TBZ40P060FTC
8	Plate X (509)	ANG3128	33	Stand Cushion	AED1340
9	Address Plate S (509)	ANG3129	34	•••••	
10	Address Plate L (509)	ANG3130	35	•••••	
11	Rivet (Plastic)	AEC1877	36	Caution Label	AAX3031
12	PCB Spacer (Reuse)	AEC2122	37	Vinyl Bag	AHG1338
13	Address Silicon TS	AEH1160	38	Pad (509 T-L EU)	AHA2727
14	Address Silicon TL	AEH1161	39	Pad (509 T-R EU)	AHA2728
15	Support Bracket	AMR3762	40	Pad (509 B-L EU)	AHA2729
16	Gasket ADH-FCH	ANK1850	41	Pad (509 B-R EU)	AHA2730
17	Front Gasket V50	ANK1963	42	Carton Board (509)	AHB1303
18	Front Gasket H50	ANK1964	43	Under Carton (5090)	AHD3673
19	Service Pad	AEC2105	44	Upper Carton (509F-SV)	AHD3716
20	Ferrite Core Holder	AEC1818	45	Protect Sheet	AHG1331
21	Wire Clip	AEC1948			
22	Gasket (10 x 10 x 80)	ANK1974			
NSP 23	Front Service Assy (509)	AMB3103			
24	Rear Case (509)	ANE1671			
NSP 25	Drive Voltage Label	ARW1097			

Service Manual

ORDER NO.
ARP3492

FLAT SCREEN TV

PDP-LX5090H

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-LX5090H	YSIXK5	AC 220 V to 240 V	
PDP-LX5090H	WYS5	AC 220 V to 240 V	

This service manual should be used together with the following manual(s).

Model No.	Order No.	Remarks
PDP-LX5090	ARP3480	EXPLODED VIEWS, BLOCK DIAGRAM, ADJUSTMENT, etc.

For SPECIFICATIONS and PANEL FACILITIES, refer to the operating instructions.

The electrical configurations of the PDP-LX5090H are the same as those of the PDP-LX5090, except for those for part of the MTB block (mainly the MAIN Assy).

As for mechanical configurations, most of the components are common between these two models, except for those for the MTB block and printing, as well as connectors.

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A

B

C

D

E

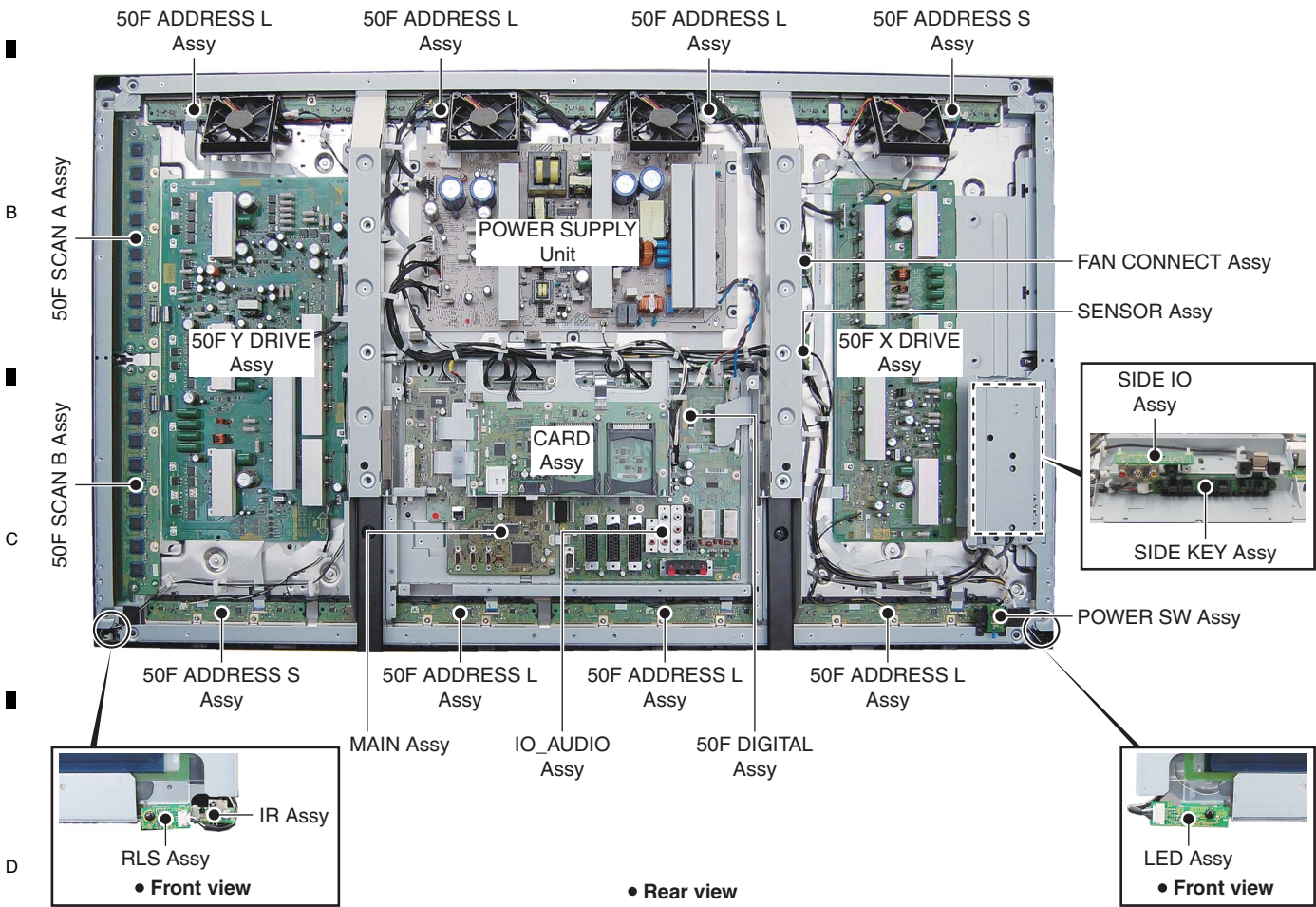
F



1. BASIC ITEMS FOR SERVICE

1.1 PCB LOCATIONS

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.



NOTES: • Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
• The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Mark No.	Description	Part No.	Mark No.	Description	Part No.
LIST OF ASSEMBLIES					
NSP	50F ADDRESS L ASSY	AWW1348	⚠	* MAIN ASSY	AWV2556
NSP	50F ADDRESS S ASSY	AWW1349			
NSP	50F SCAN A ASSY	AWW1350		IO_AUDIO ASSY	AWW1354
	└ IC2801 - IC2808	AN16184A		SIDE IO ASSY	AWW1358
NSP	50F SCAN B ASSY	AWW1351		SIDE KEY ASSY	AWW1361
	└ IC2901 - IC2908	AN16184A		LED ASSY	AWW1362
	SENSOR ASSY	AWW1340		IR ASSY	AWW1363
	50F DIGITAL Assy	AWW1347		FAN CONNECT ASSY	AWW1364
	50F X DRIVE ASSY	AWV2546		RLS ASSY	AWW1365
	50F Y DRIVE ASSY	AWV2547		POWER SW ASSY	AWW1366
				* CARD ASSY	AWV2558
			⚠	POWER SUPPLY UNIT	AXY1200
				PDP SERVICE ASSY 509FE	AWU1342

* These Assys are for PDP-LX5090H model use.

■5■6■7■8■

1.2 JIGS LIST

A

Name	Jig No.	Remarks
Flexible cable for service	GGP1048	refer to “4.2 DISASSEMBLY 4 Sub Multi Chassis”

■

2. BLOCK DIAGRAM

2.1 OVERALL WIRING DIAGRAM (1/2)

A

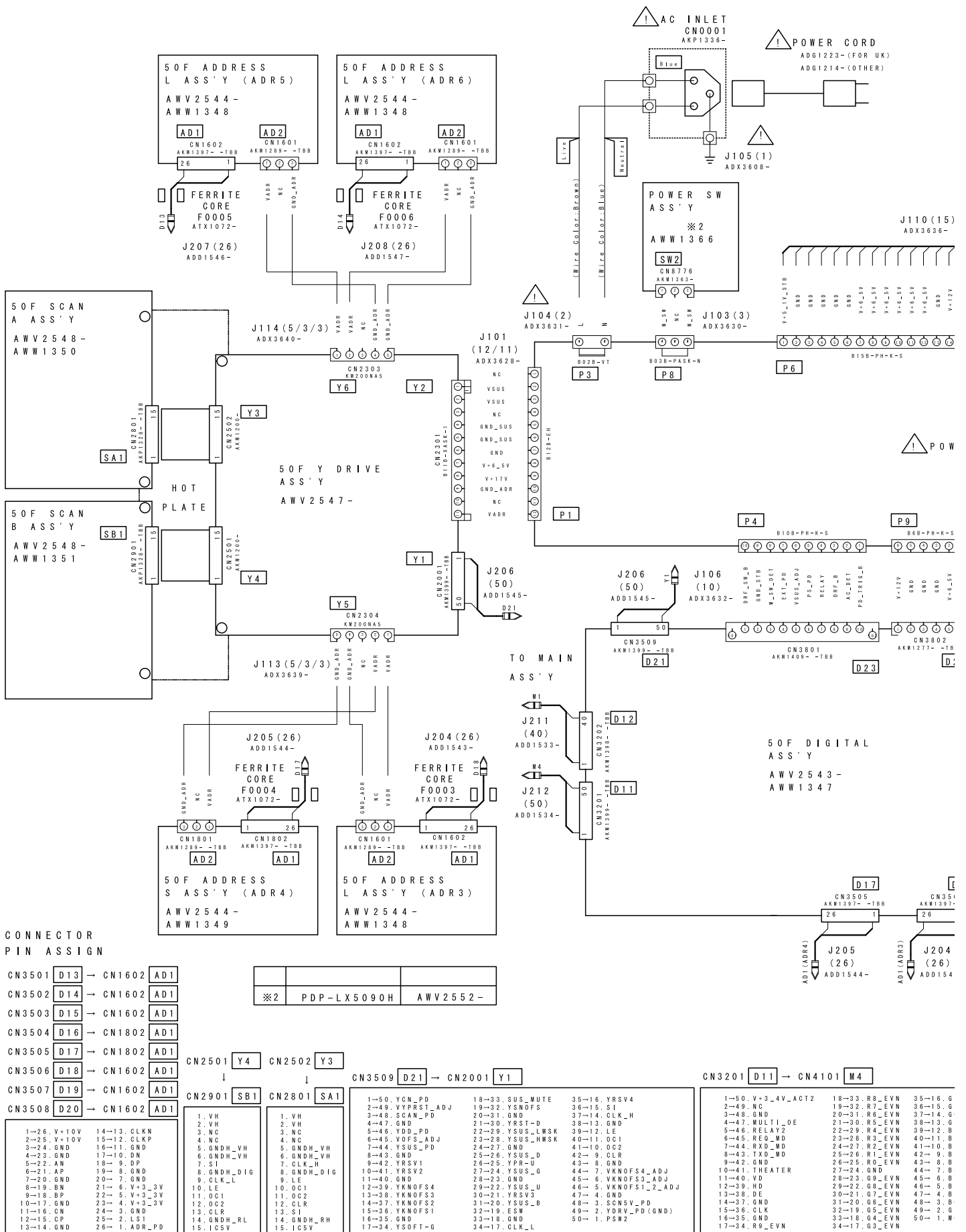
B

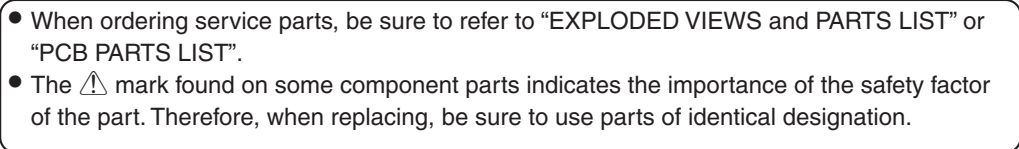
C

D

E

F



3 - (FOR UK)
1 - (OTHER)

PDP-LX5090H

2.2 OVERALL WIRING DIAGRAM (2/2)

A

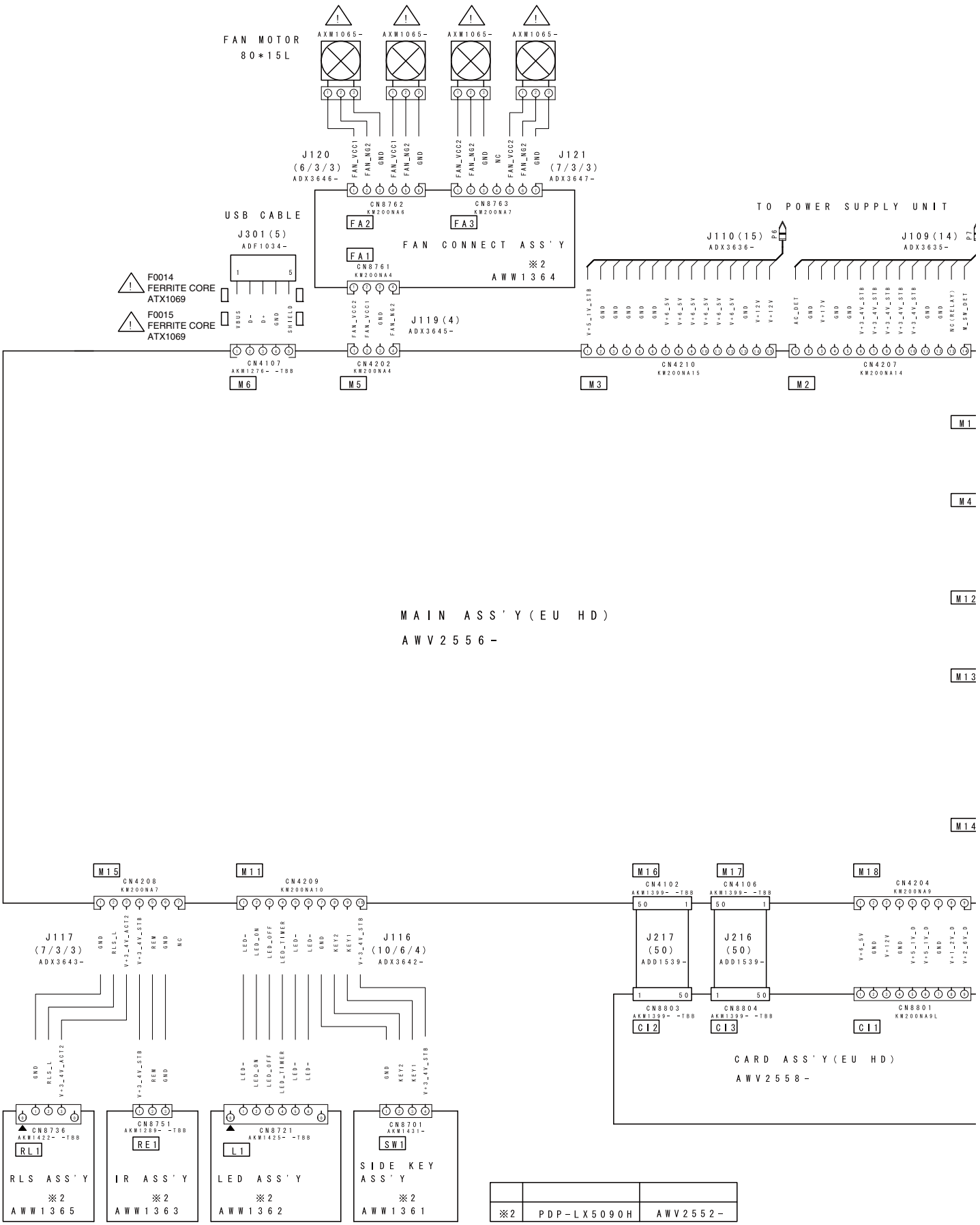
B

C

D

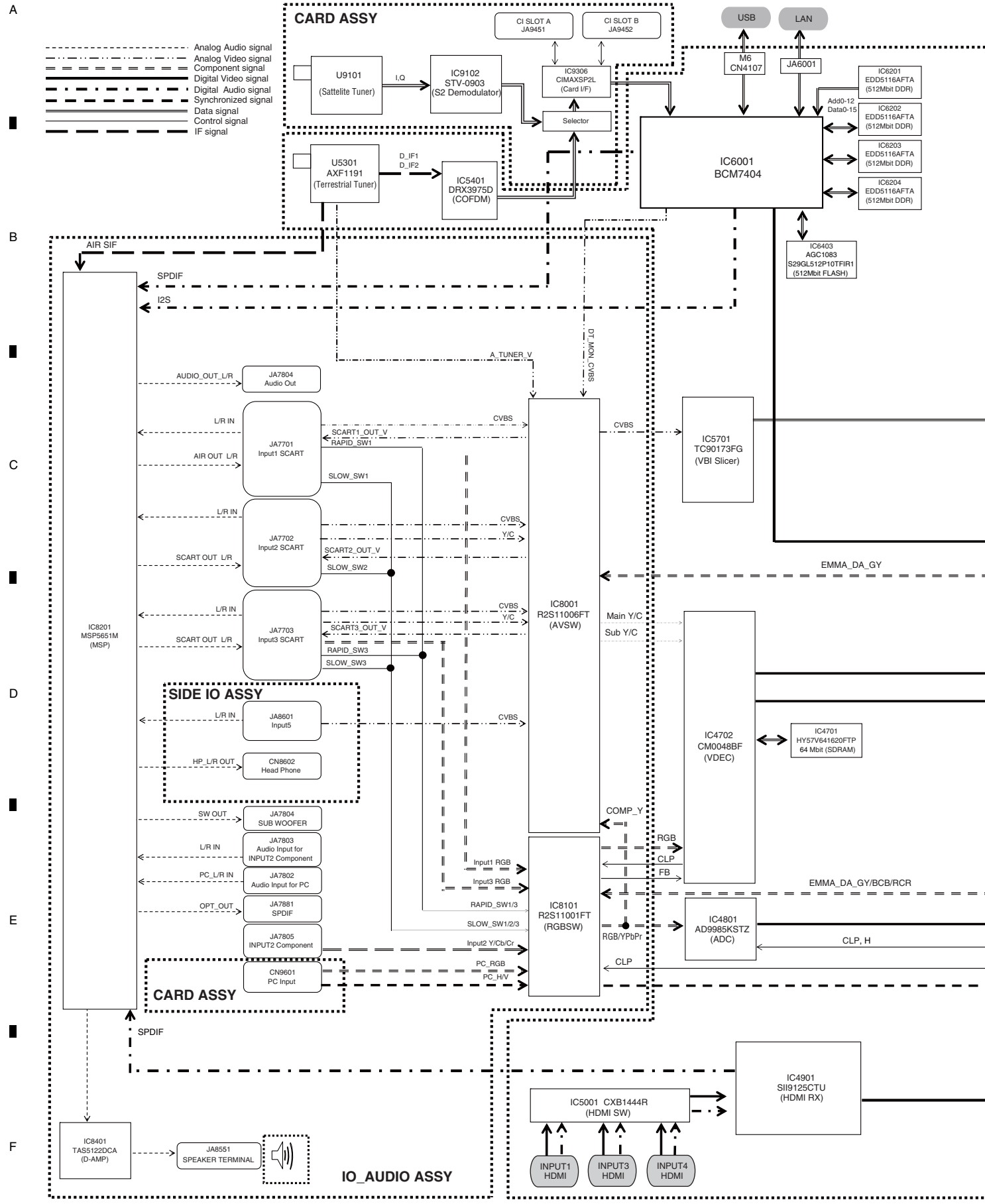
E

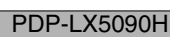
F





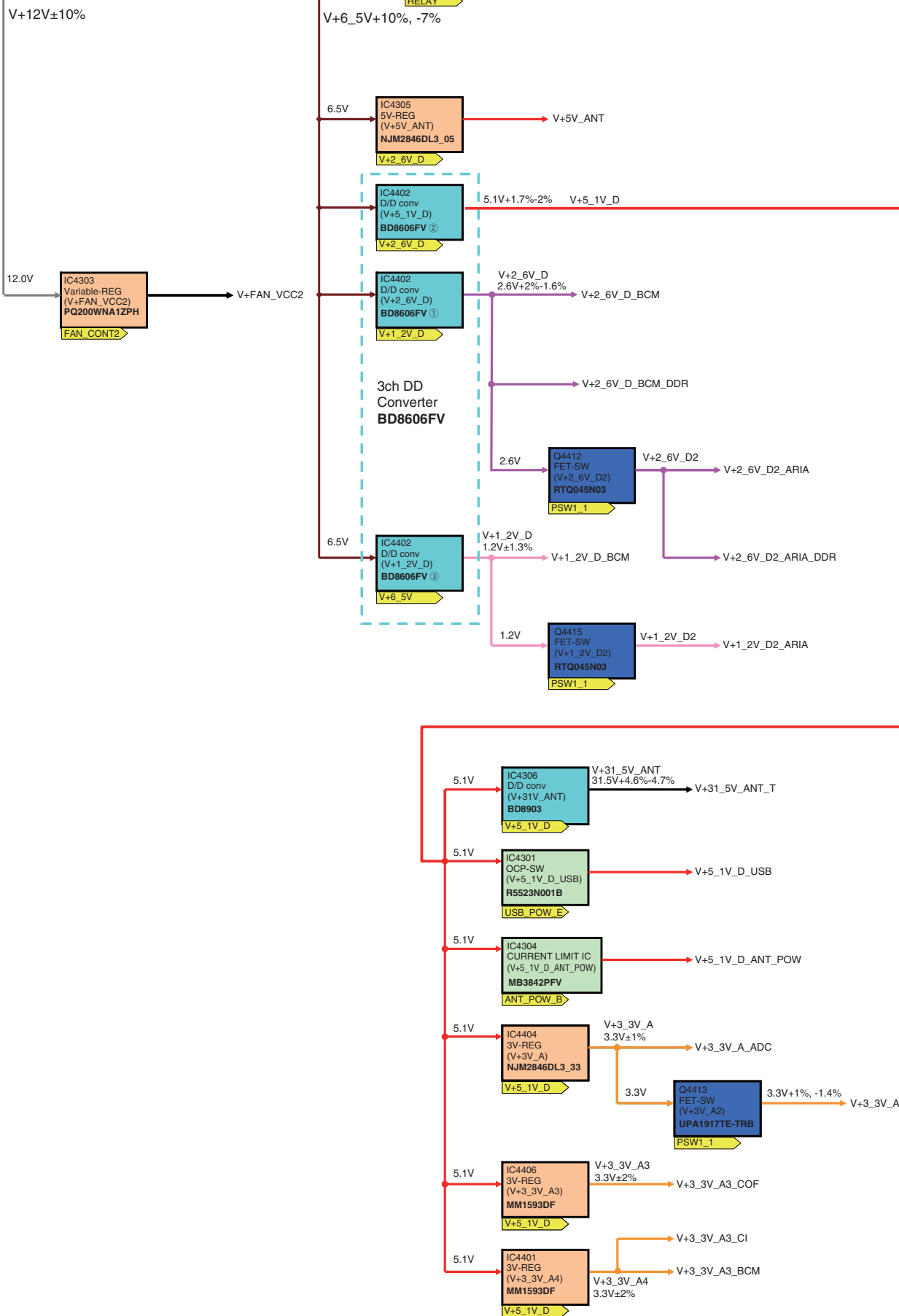
2.3 OVERALL BLOCK DIAGRAM (MULTI BASE SECTION)



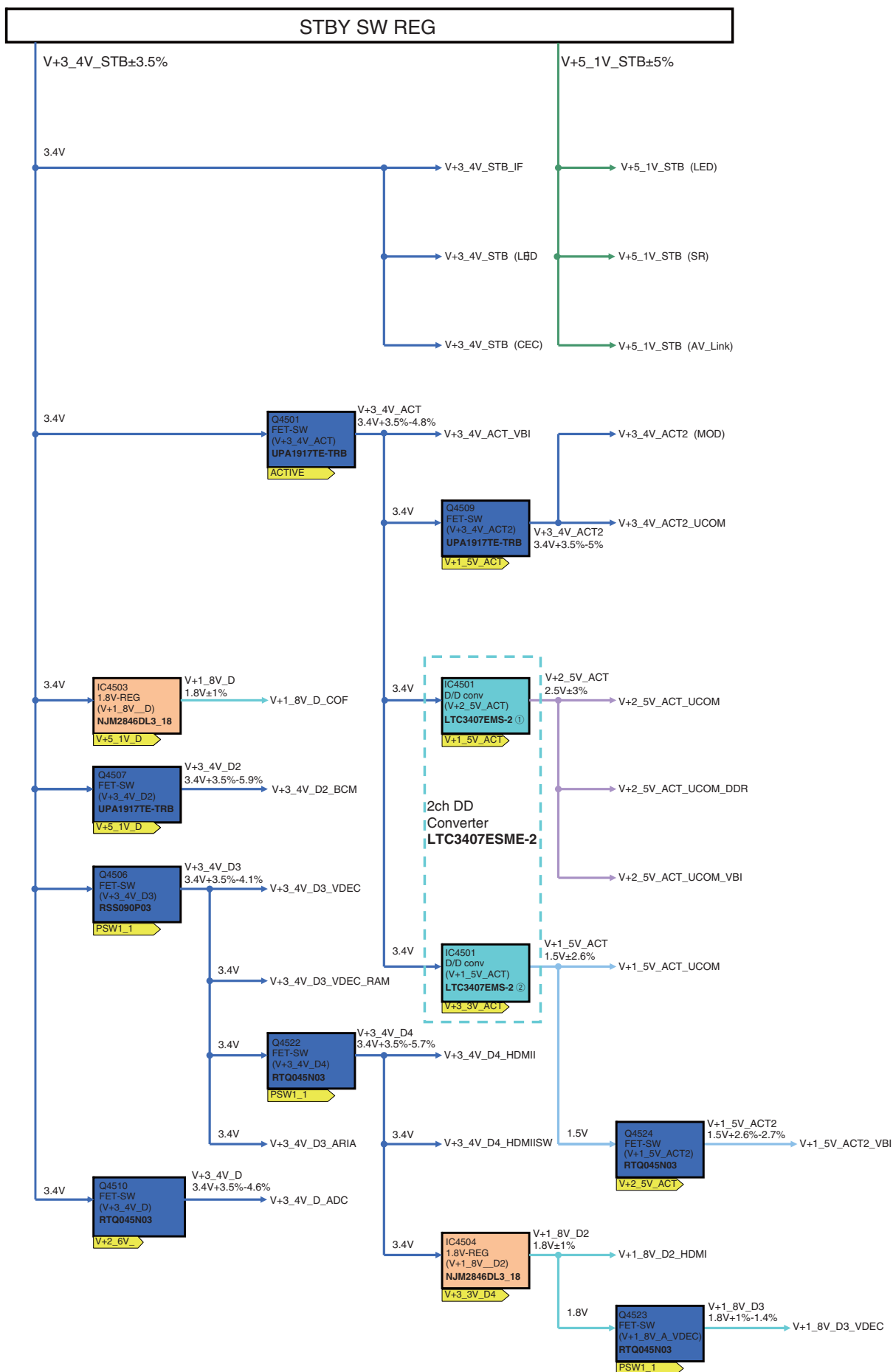


2.4 POWER SUPPLY BLOCK of MAIN ASSY

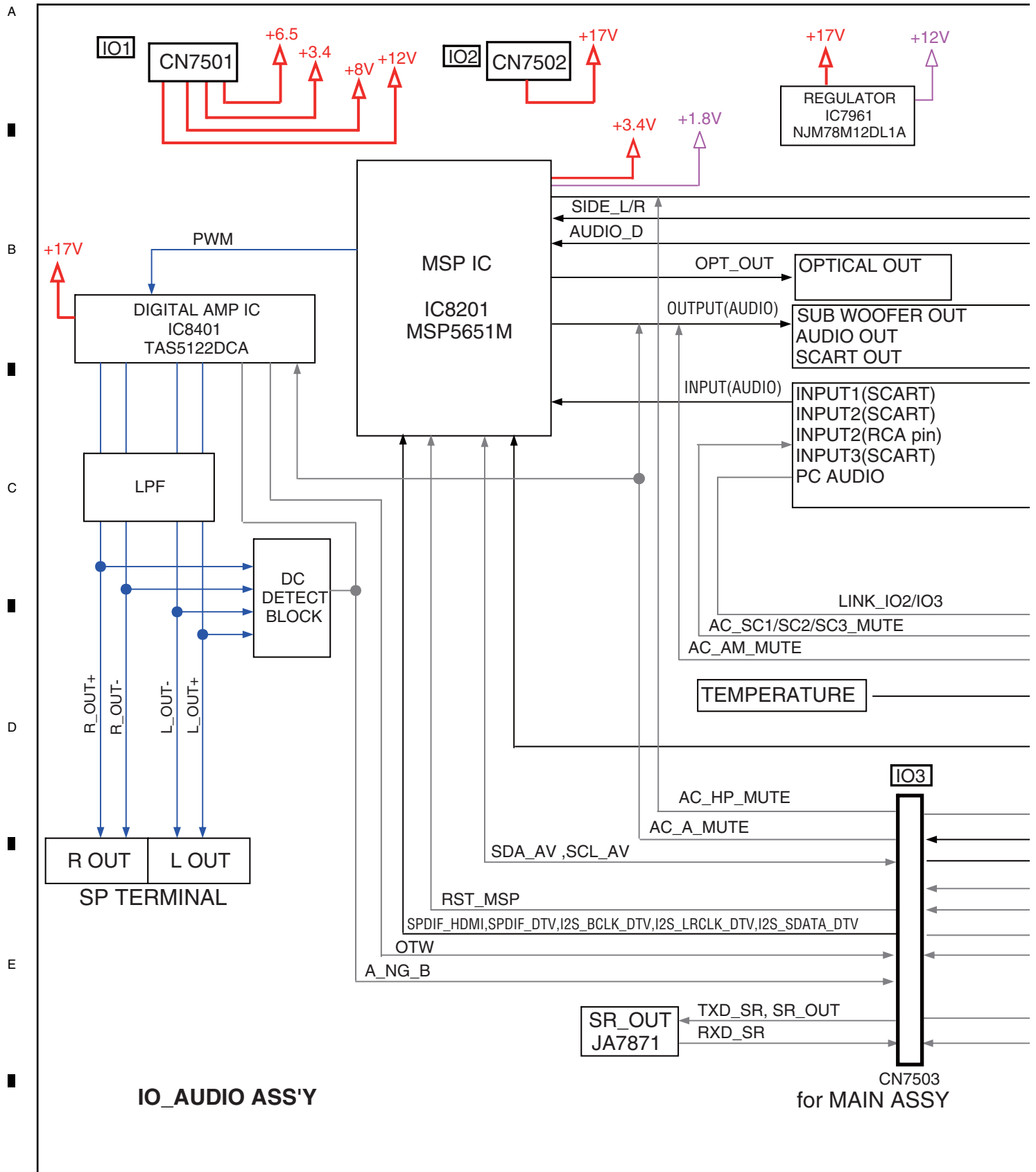
SW REG CONTROLLED BY RELAY

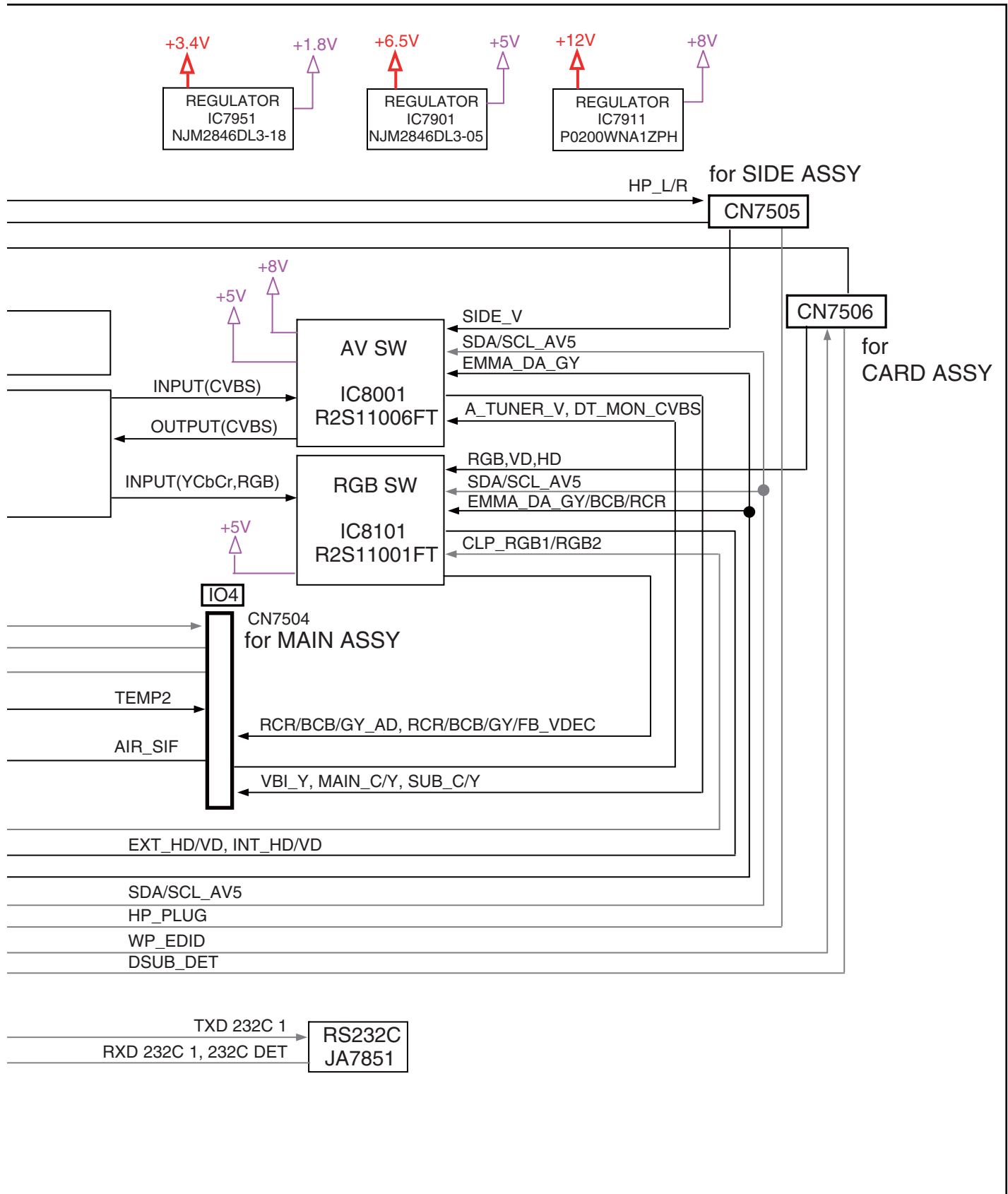


PDP-LX5090H



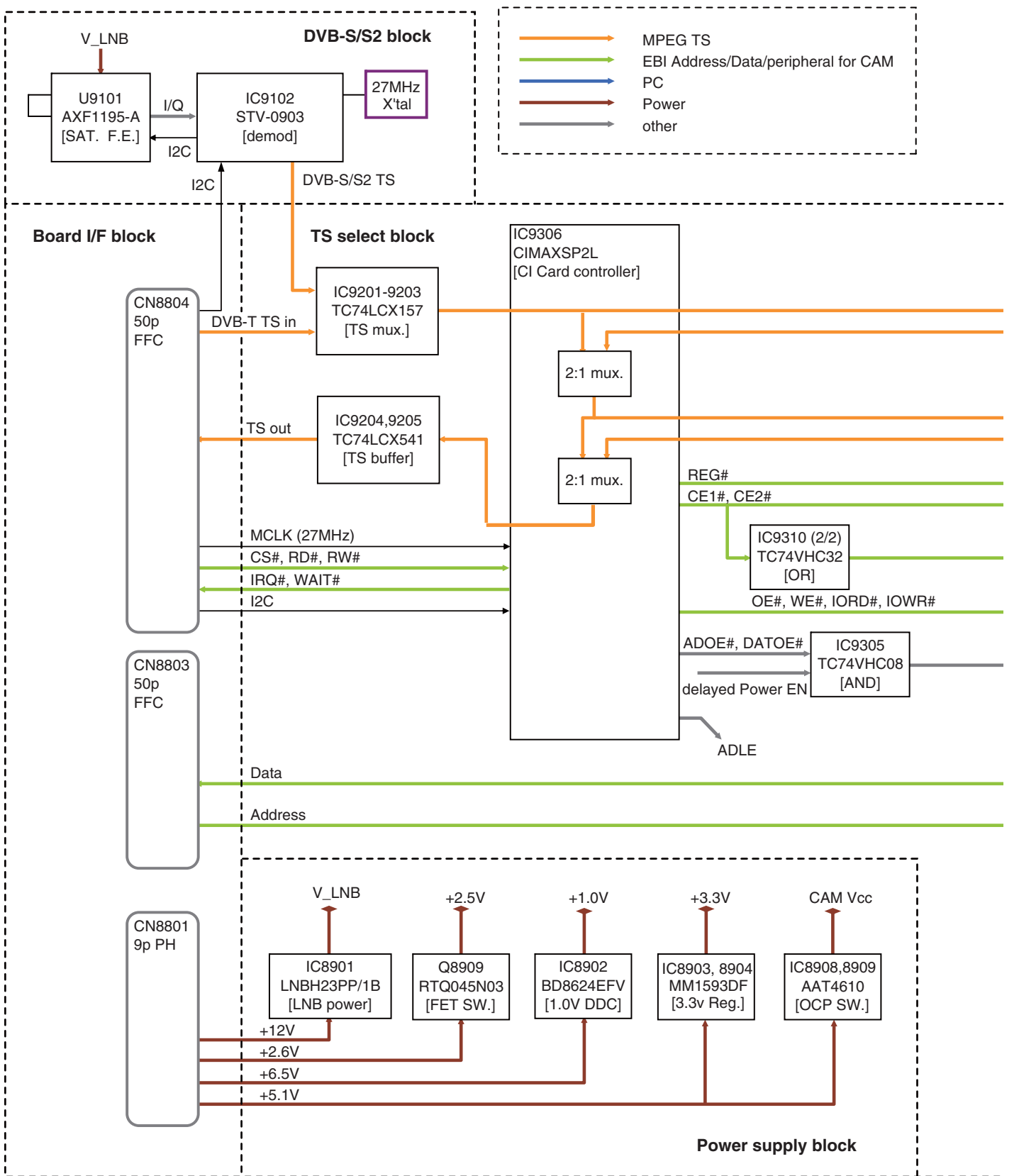
2.5 IO_AUDIO ASSY

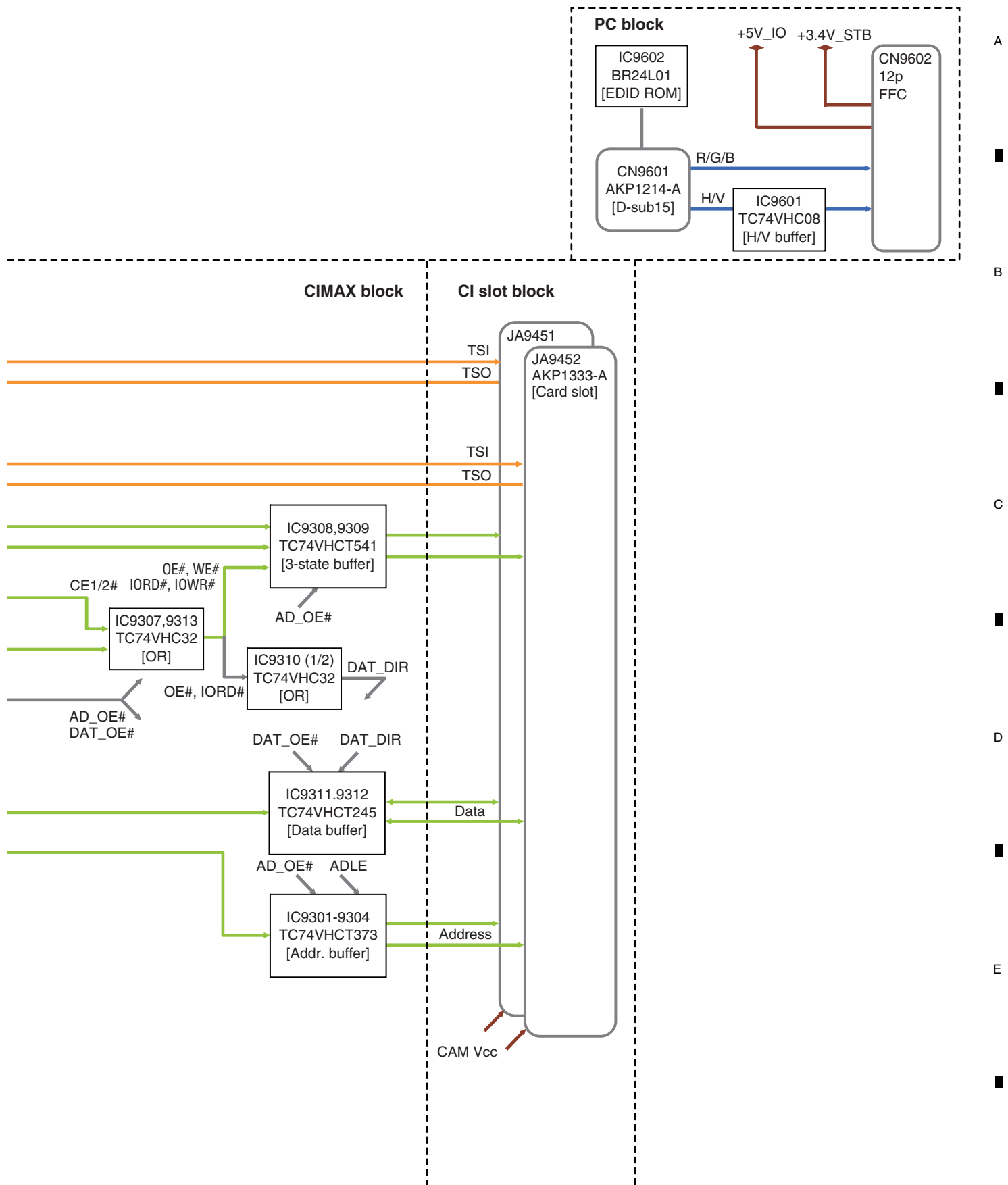




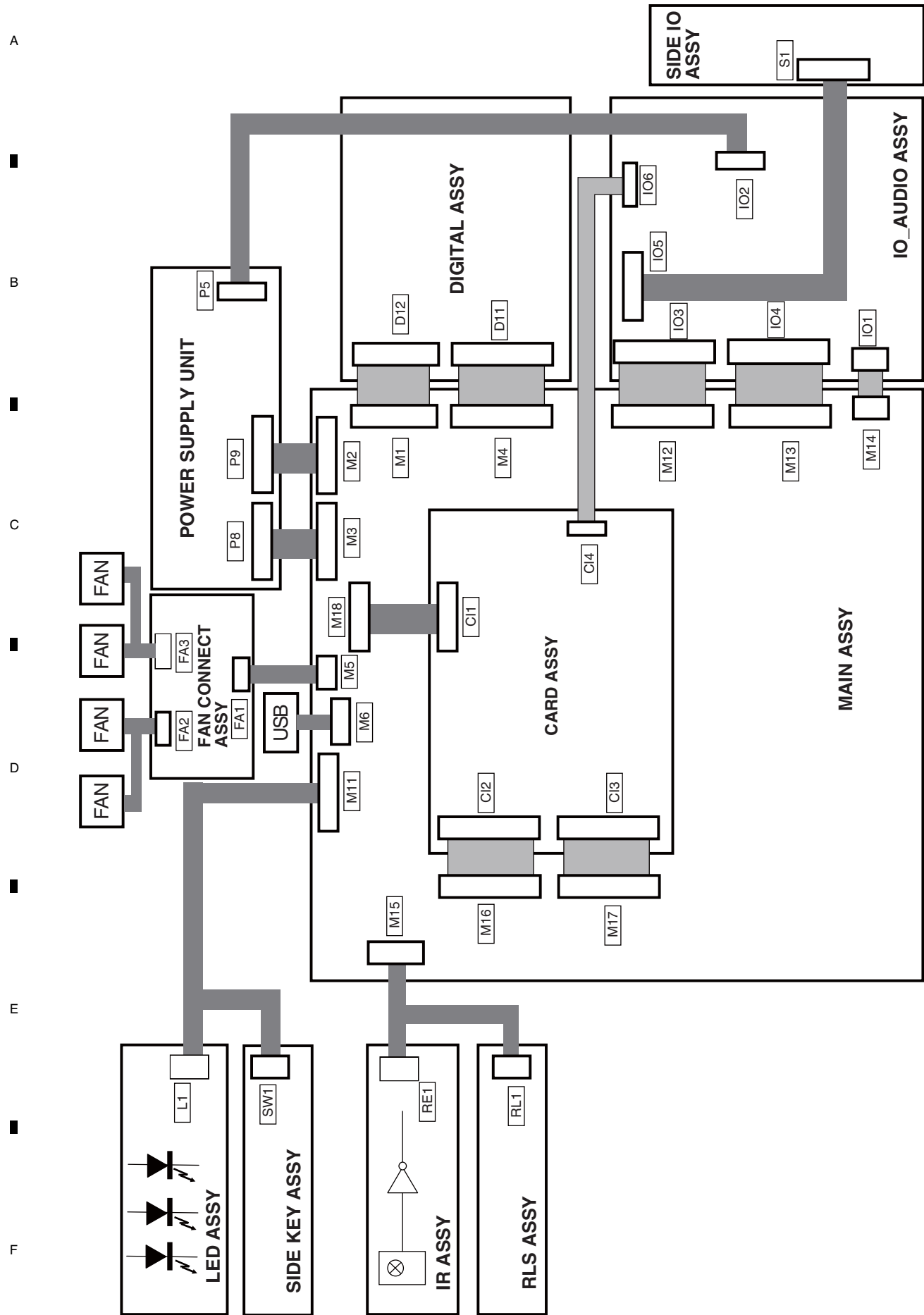
2.6 CARD ASSY

A
B
C
D
E
F





2.7 LED and IR ASSYS



3. DIAGNOSIS

3.1 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

A

Following items are same as the PDP-LX5090.

- [1] WHOLE UNIT
- [2] POWER SUPPLY UNIT
- [3] DRIVE ASSY
- [4] DIGITAL ASSY
- [7] AUDIO SYSTEM

B

C

D

E

F

A

[5] MAIN ASSY

Flowchart of Failure Analysis for The MAIN Assy

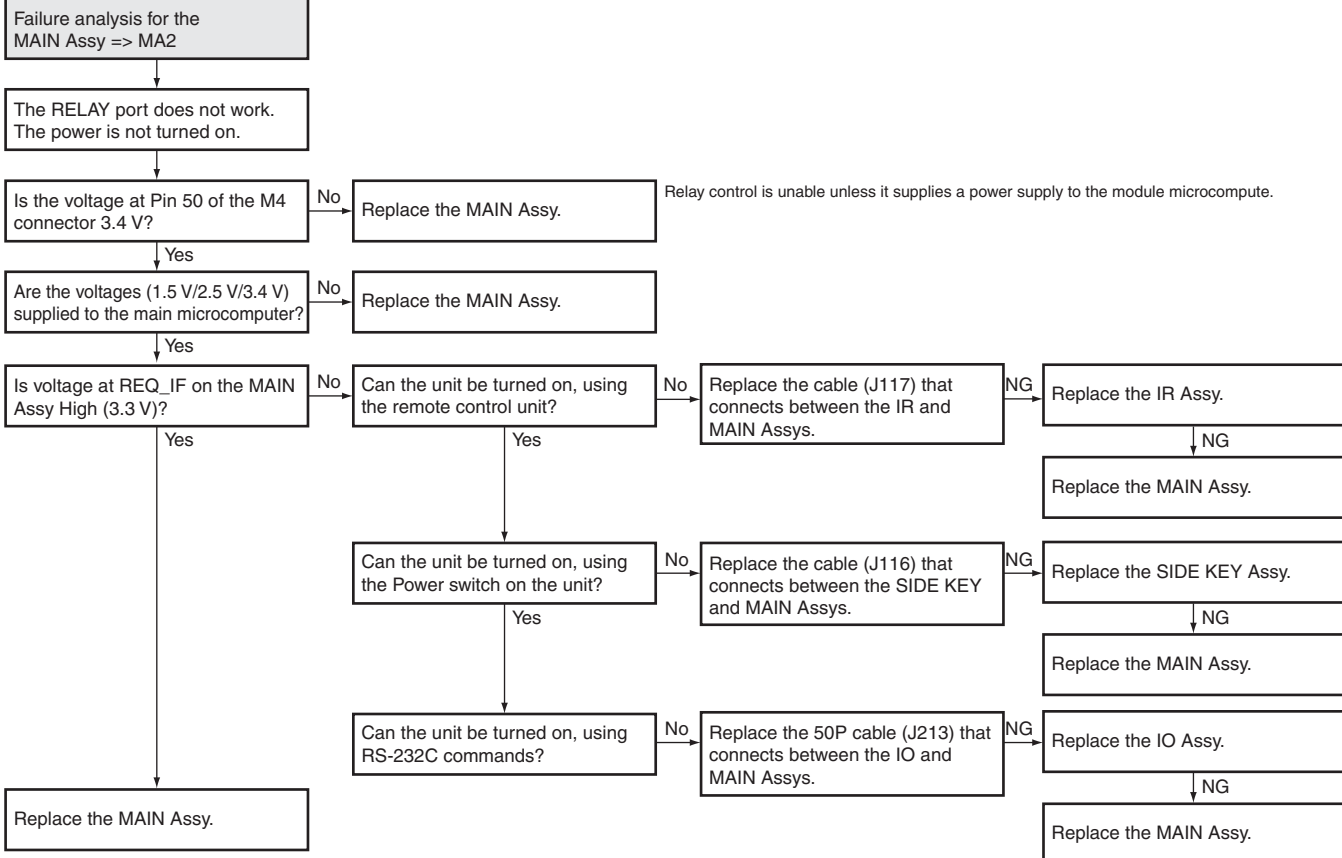
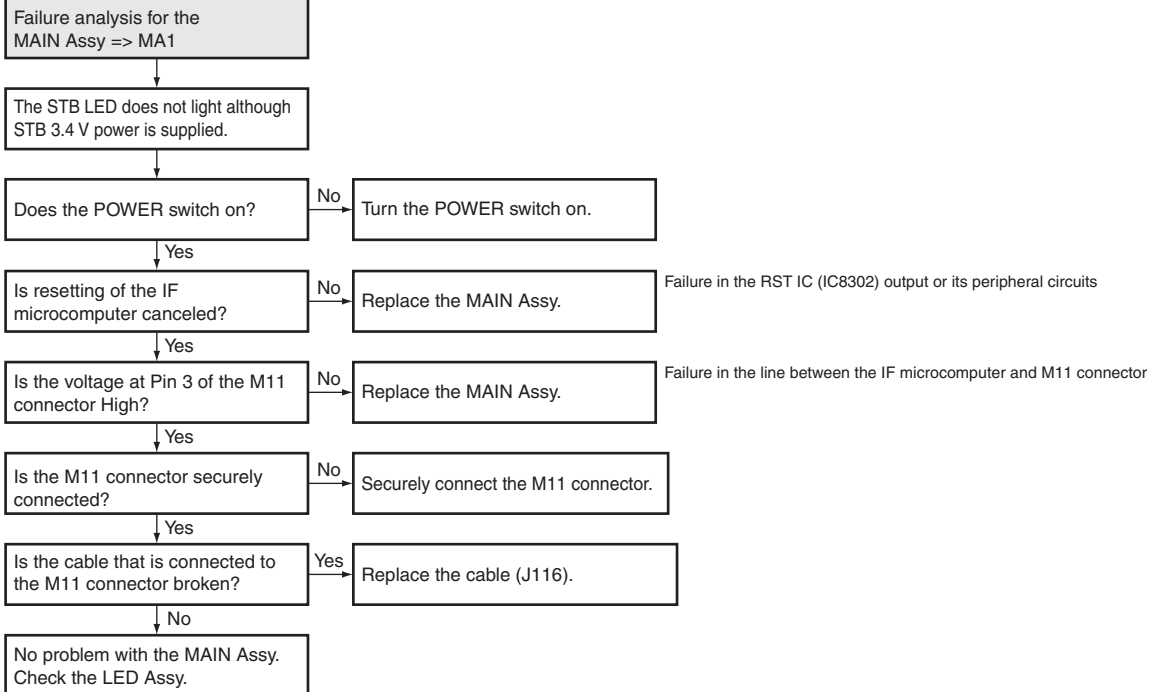
B

C

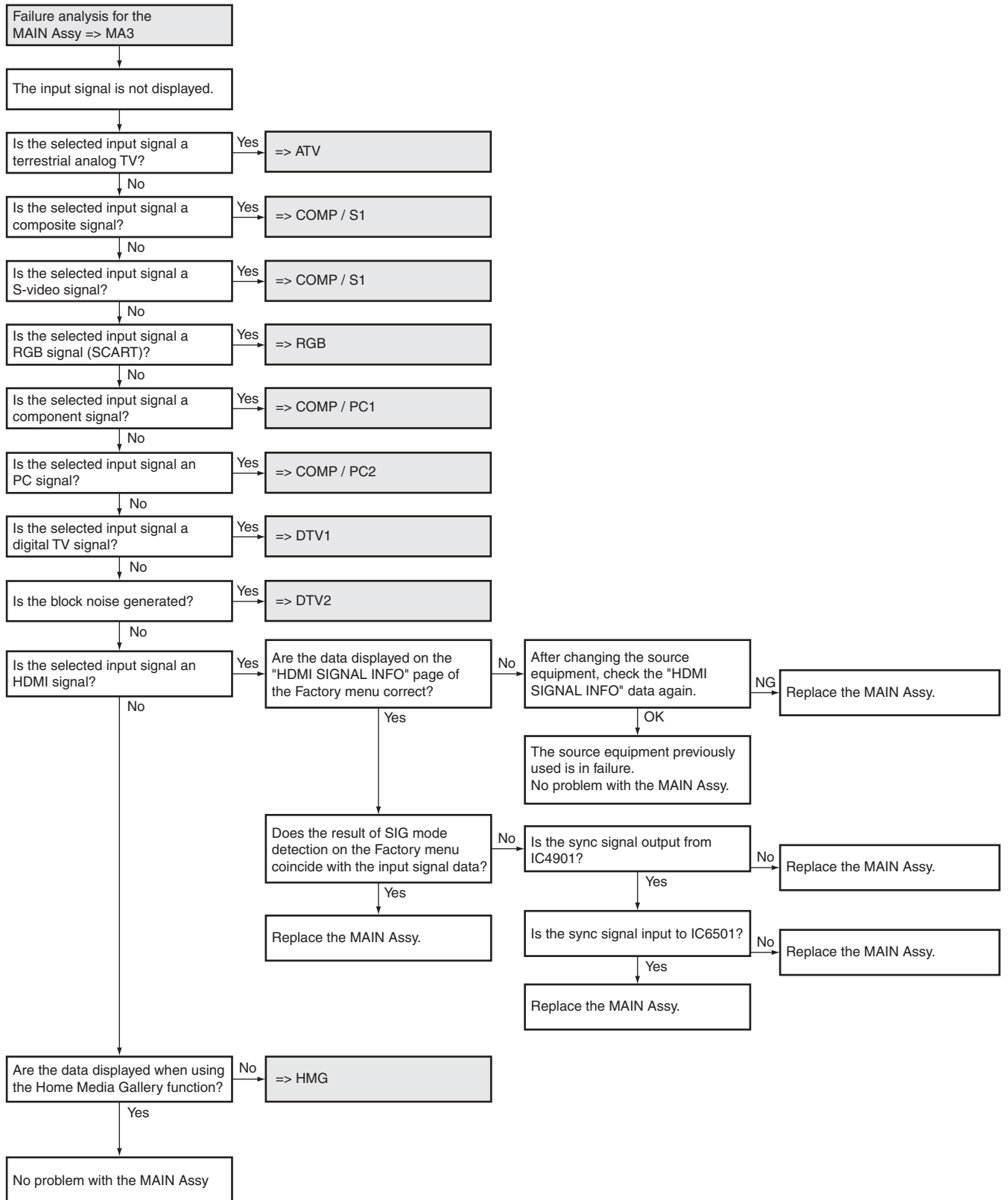
D

E

F

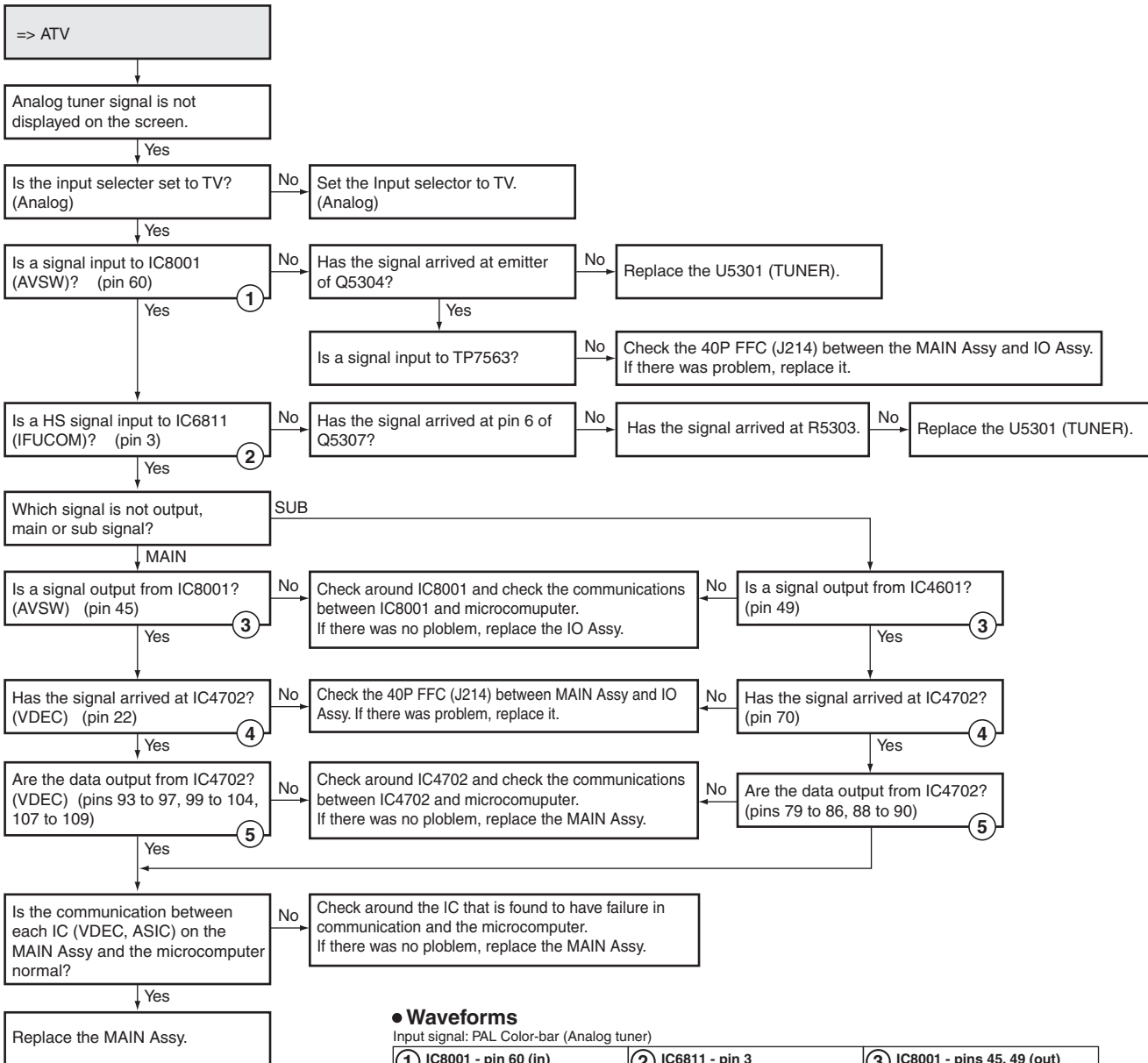


Flowchart of Failure Analysis for The MAIN Assy



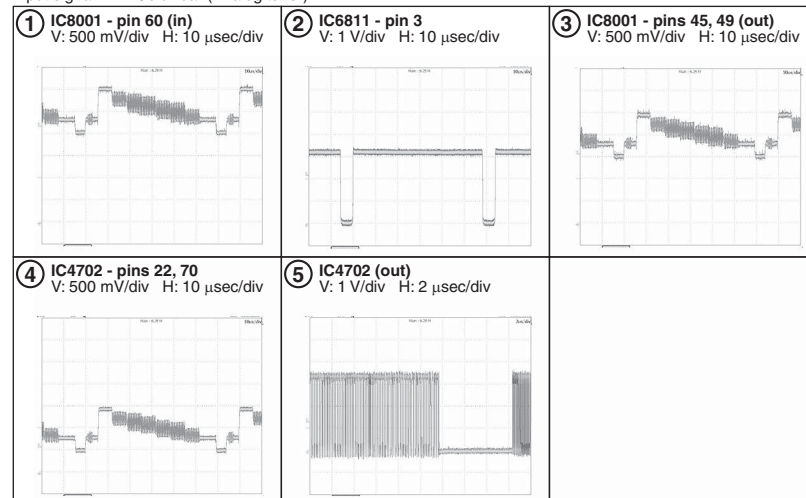
[6] VIDEO SYSTEM

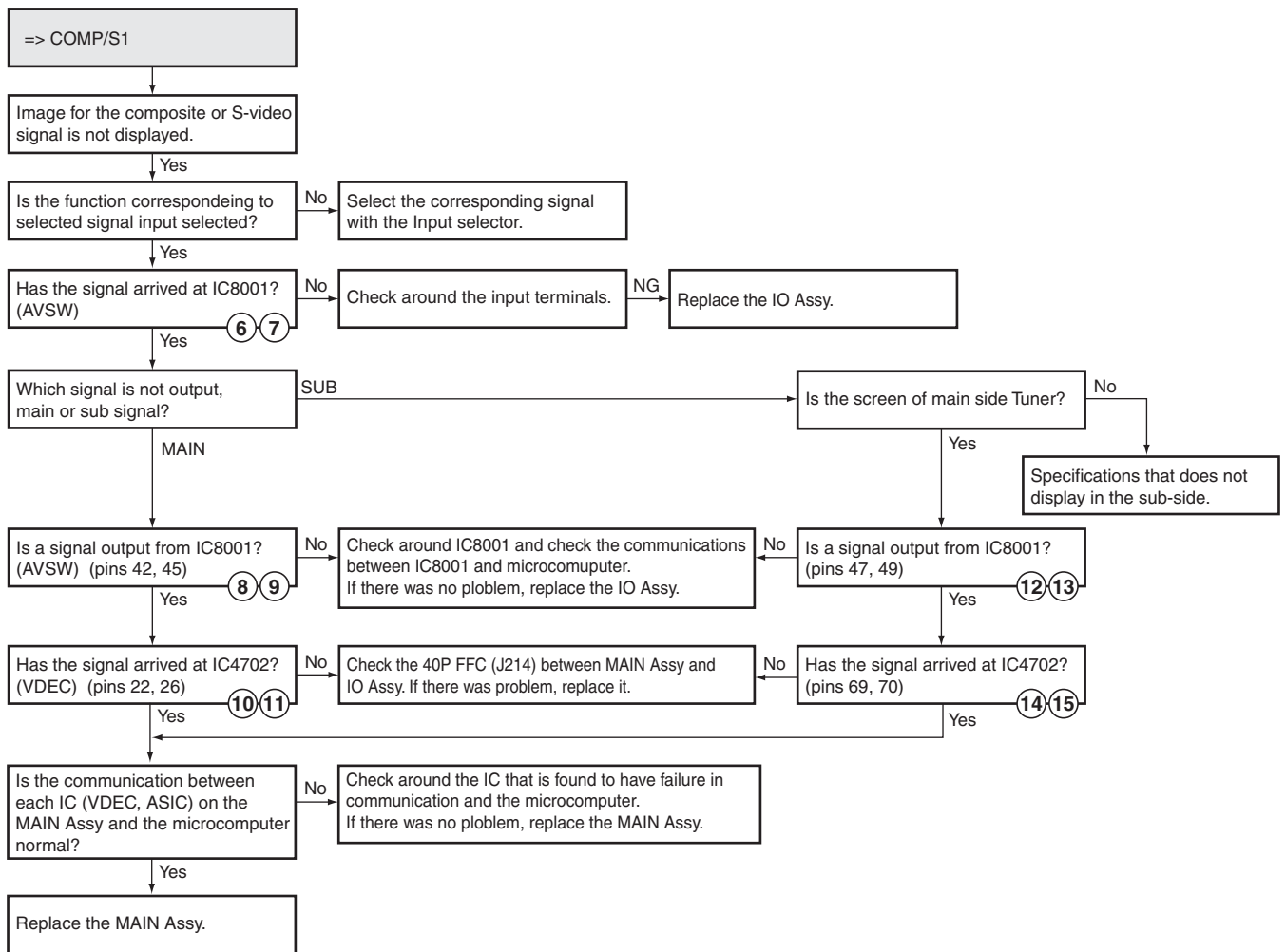
Flowchart of Failure Analysis for The Video System



● Waveforms

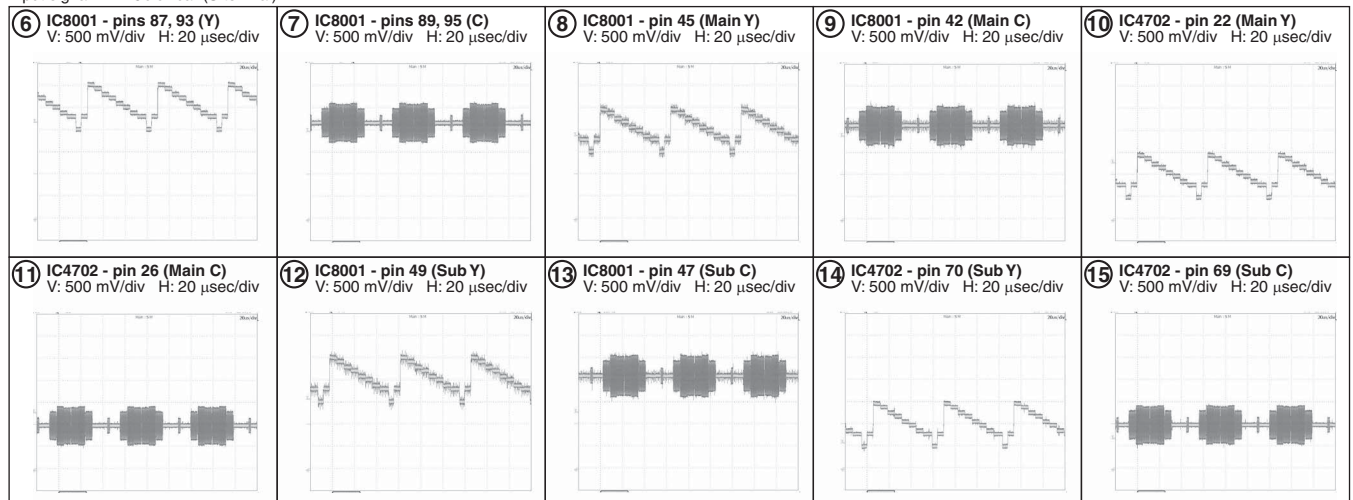
Input signal: PAL Color-bar (Analog tuner)





• Waveforms

Input signal: PAL Color-bar (S terminal)



A

=> RGB

Image for the RGB (SCART) input signal is not displayed.

Yes

Is the function corresponding to selected signal input selected?

No

Select the corresponding signal with the Input selector.

Yes

B

Has the signal arrived at IC8101 (RGBSW)?

No

Check around the input terminals.

No

Replace the IO Assy.

Yes

Is a signal output from IC8101? (pins 41, 43 and 45) ①⑥ ①⑦ ①⑧

No

Check around IC8101 and check the communications between IC8101 and microcomputer. If there was no problem, replace the IO Assy.

Yes

Has the signal arrived at IC4702? (pins 27, 28 and 65) ①⑨ ②⑦ ②⑧

No

Check the 40P FFC (J214) between MAIN Assy and IO Assy. If there was problem, replace it.

Yes

C

Which signal is not output, main or sub signal?

Sub

Is the screen of main side Tuner?

No

Specifications that does not display in the sub-side.

Main

Yes

Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?

No

Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN Assy.

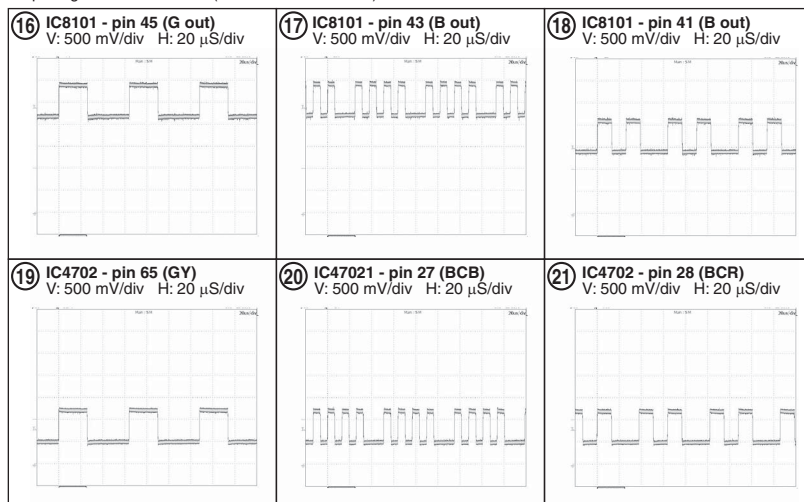
Yes

D

Replace the MAIN Assy.

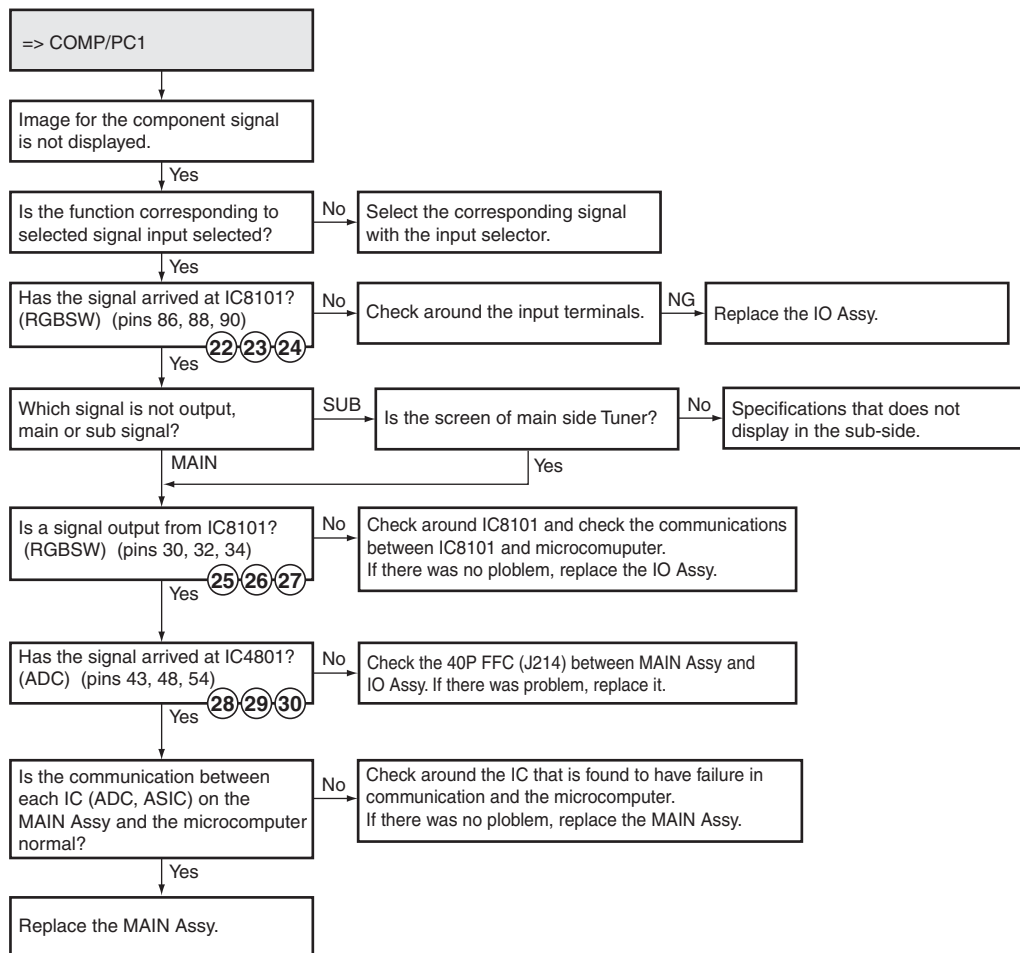
Waveforms

Input signal: PAL Color-bar (SCART RGB terminal)



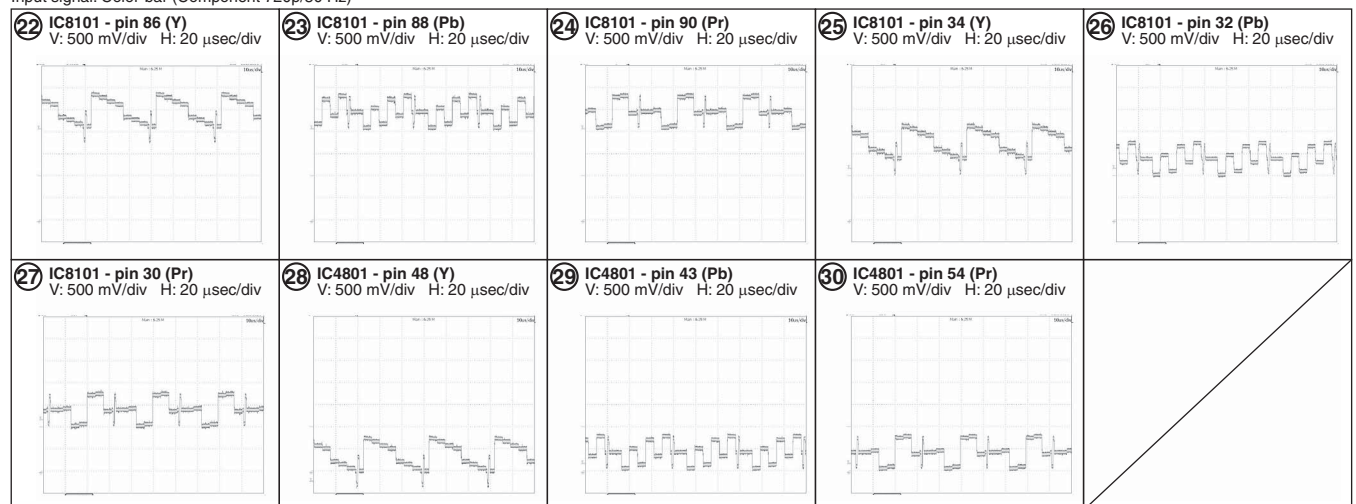
E

F



● Waveforms

Input signal: Color-bar (Component 720p/50 Hz)



A

=> COMP/PC2

Image for the PC signals is not displayed.

Yes

Is the function corresponding to selected signal input selected?

No

Select the corresponding signal with the input selector.

Yes

B

Has the signal arrived at IC8101? (RGBSW) (pins 2, 4, 6, 14, 15)

No

Check the 12P FFC (J215) between IO Assy and PC Assy. If there was problem, replace it.

Yes

Which signal is not output, main or sub signal?

SUB

Is the screen of main side Tuner?

No

Specifications that does not display in the sub-side.

MAIN

Yes

Is a signal output from IC8101? (RGBSW) (pins 30, 32, 34)

No

Check around IC8101 and check the communications between IC8101 and microcomputer. If there was no problem, replace the IO Assy.

Yes

C

Has the signal arrived at IC4801? (ADC) (pins 43, 48, 54)

No

Check the 40P FFC (J214) between MAIN Assy and IO Assy. If there was problem, replace it.

Yes

Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer normal?

No

Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN Assy.

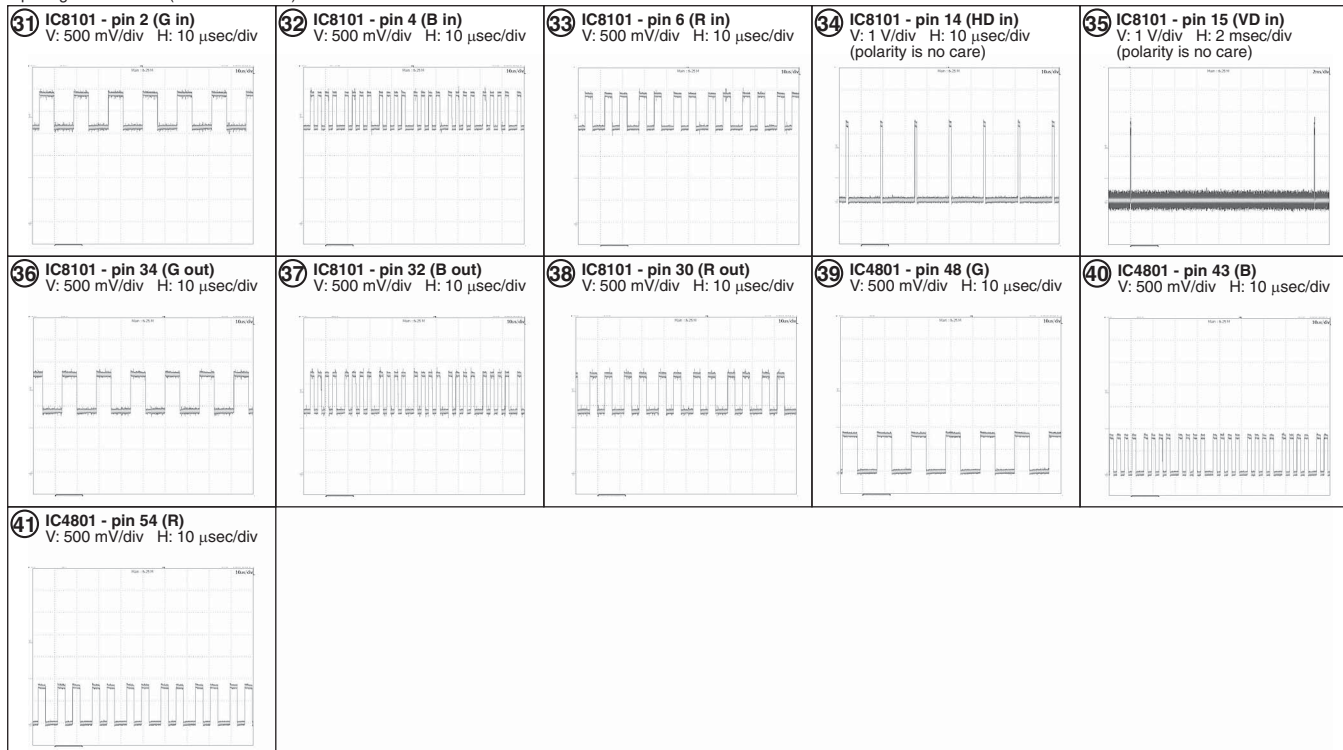
Yes

Replace the MAIN Assy.

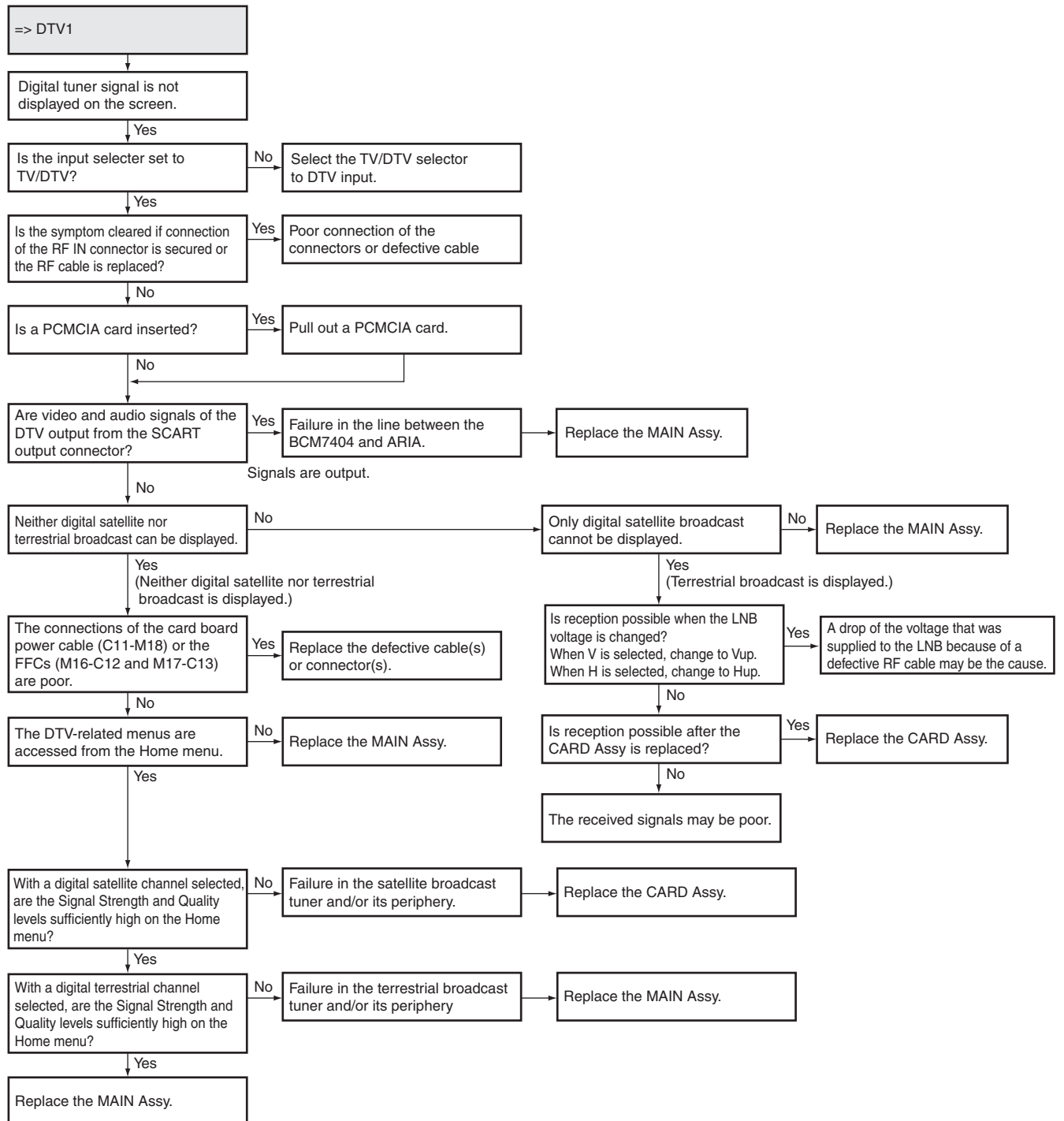
D

● Waveforms

Input signal: Color-bar (PC SXGA/60 Hz)



F



A

[Common to the DTVs 1 and 2] How to Display the DTB Service Menu

As you can display the DTB Service Menu from Factory mode, you should have a remote control unit that supports Factory mode.

Step 1: Press the Factory key on the remote control unit to display the INFORMATION screen in Factory mode.

Step 2: Press the Mute key on the remote control unit 3 times to display the INITIALIZE screen.

Step 3: Press the **↓** key on the remote control unit twice so that DTB SERVICE MODE (+) is displayed at the bottom of the screen.

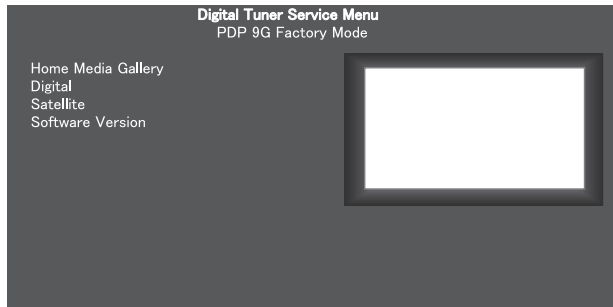
Step 4: Press the ENTER/SET key on the remote control so that MODE SHIFT <=> :No is displayed at the bottom of the screen.

Step 5: Press the **←** or **→** key on the remote control so that MODE SHIFT <=> :YES is displayed at the bottom of the screen.

Step 6: Press the ENTER/SET key on the remote control unit for 5 sec or more to display the DTB Service Menu.

B

Top page of the DTB Service Menu



C

Digital : Service menu for digital terrestrial broadcast reception

Satellite : Service menu for digital satellite broadcast reception

D

How to Change the LNB Voltage on the DTV Service Menu

On the Satellite screen of the DTV Service menu below, move the cursor to LNB POWER by using the **↓** key on the remote control unit then change the LNB voltage, using the **←** or **→** key.

D

The LNB voltage values are as shown below:

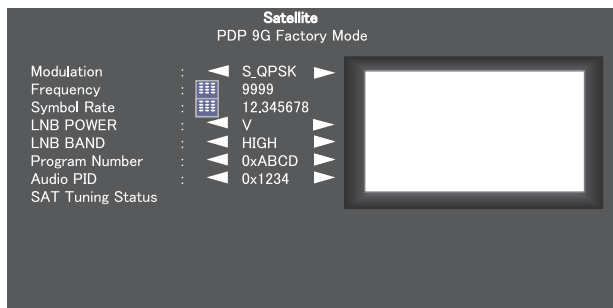
V: 13V (Typ.)

H: 18V (Typ.)

Vup: V+1V

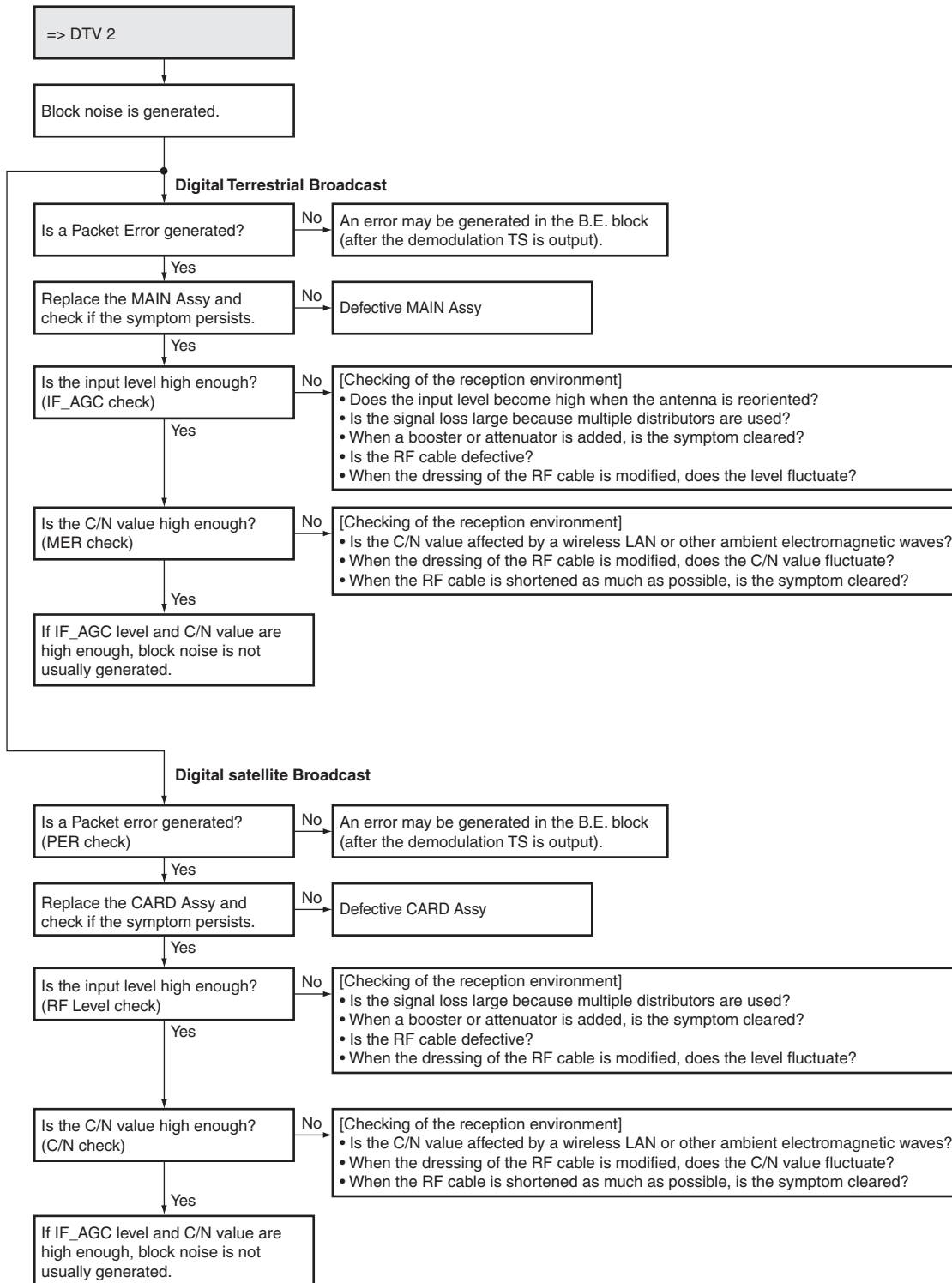
Hup: H+1V

E



E

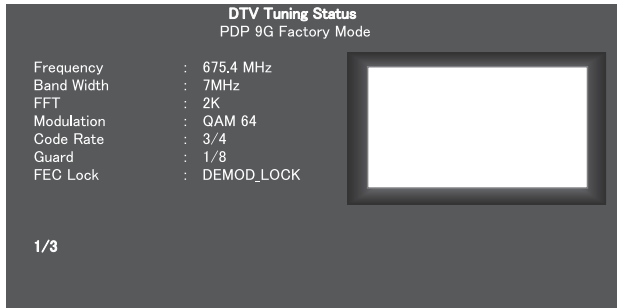
F



How to Confirm the DTV Tuning Status on the Digital Tuner Service Menu

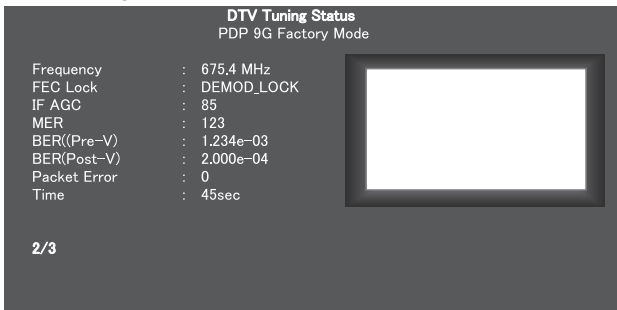
If block noise is generated, it is necessary to acquire the DTV Tuning Status for the reception frequency of the signal in which block noise is generated. For comparison, it is also necessary to acquire the DTV Tuning Status for another reception frequency of the signal in which block noise is not generated. The DTV Tuning Status page to be acquired is shown below:

DTV Tuning Status (1/3)



Frequency : Frequency of the signal currently being received
 Band Width : Bandwidth of the signal currently being received
 FFT : FFT mode of the signal currently being received (2K or 8K)
 Modulation : Modulation method for the signal currently being received
 Code Rate : Code Rate of the signal currently being received
 Guard : Guard Interval of the signal currently being received
 FEC Lock : Current lock status of the receiver. The available lock statuses are as shown below:
 DEMOD_LOCK
 EFC_LOCK
 DRX_LOCK
 UNLOCK

DTV Tuning Status (2/3)



IF AGC : IF AGC level of the signal currently being received.
 The AGC-level limits in normal reception are shown below.
 Use the following values only as a guide, because they may be affected by the reception environment.

Modulation	Code Rate	Signal-level Limit in Normal Reception
QPSK	1/2	100
	2/3	100
	3/4	100
	5/6	100
	7/8	100
16QAM	1/2	100
	2/3	100
	3/4	100
	5/6	100
	7/8	100
64QAM	1/2	100
	2/3	58
	3/4	56
	5/6	55
	7/8	54

MER : Quality of the signal currently being received.
 The signal qualities in normal reception are shown below.
 Use the following values only as a guide.

Modulation	Code Rate	MER Limit in Normal Reception
QPSK	1/2	93
	2/3	85
	3/4	67
	5/6	76
	7/8	82
16QAM	1/2	98
	2/3	116
	3/4	127
	5/6	138
	7/8	145
64QAM	1/2	140
	2/3	170
	3/4	184
	5/6	197
	7/8	206

BER (Pre-V) : Pre-Viterbi Bit Error Rate of the signal currently being received
 BER (Post-V) : Post-Viterbi Bit Error Rate of the signal currently being received. If the value is 2.000E-04, block noise is not caused by a problem in the tuner.
 Packet Error : Packet error count of the signal currently being received.
 Time : Measured duration of BER (Pre-V), BER (Post-V), or Packet Error. To reset the value to 0 and restart measuring, press the ◀ or ▶ key on the remote control unit.

DTV Tuning Status (3/3)

DTV Tuning Status

PDP 9G Factory Mode

Program Number : 0x0101

Video PID : 0xABCD

Audio PID : 0x1234

PCR PID : 0x5678

Video Format : 1080i@60

Aspect : 16 : 9

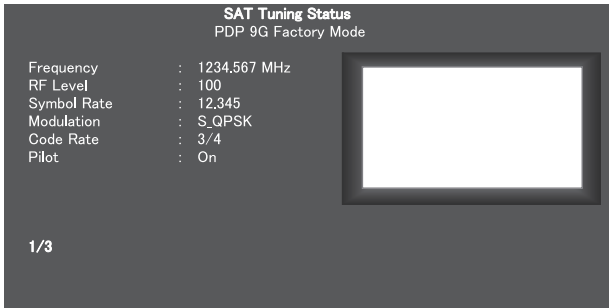
3/3

Program Number : No. of the program currently being received
Video PID : Video PID of the program currently being received
Audio PID : Audio PID of the program currently being received
PCR PID : PCR PID of the program currently being received
Video Format : Video Format of the program currently being received
Aspect : Aspect ratio of the program currently being received

How to Confirm the SAT Tuning Status on the Digital Tuner Service Menu

If block noise is generated, it is necessary to acquire the SAT Tuning Status for the reception frequency of the signal in which block noise is generated. For comparison, it is also necessary to acquire the SAT Tuning Status for another reception frequency of the signal in which block noise is not generated. The SAT Tuning Status page to be acquired is shown below:

SAT Tuning Status (1/3)

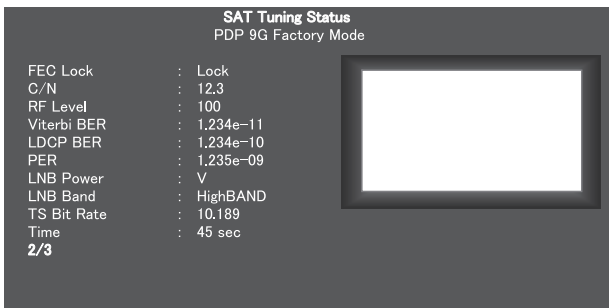


Frequency : Frequency of the signal currently being received
 RF Level : Level of the signal currently being received.
 The signal-level limits in normal reception are shown below. Use the following values only as a guide, because they may be affected by the reception environment.

Modulation	Signal-level Limit in Normal Reception
S2_QPSK	50 to 75
S2_8PSK	50 to 75
S_QPSK	50 to 75

Modulation : Modulation method for the signal currently being received
 Symbol Rate : Symbol Rate of the signal currently being received
 Code Rate : Code Rate of the signal currently being received
 Pilot : On/off status of the Pilot signal currently being received

SAT Tuning Status (2/3)



FEC Lock : Current lock/unlock status of the error-correction function of the receiver
 C/N : Current reception C/N. The limit C/Ns in normal reception are shown below. Use the following values only as a guide.

Limit C/N in normal reception

Modulation	Code Rate	Limit C/N in Normal Reception	Modulation	Code Rate	Limit C/N in Normal Reception
S2_QPSK	1/2	1.1	S2_8PSK	3/4	8.1
S2_QPSK	3/5	2.4	S2_8PSK	5/6	9.6
S2_QPSK	2/3	3.2	S2_8PSK	8/9	11.0
S2_QPSK	3/4	4.2	S2_8PSK	9/10	11.3
S2_QPSK	4/5	4.8	S_QPSK	1/2	5.2
S2_QPSK	5/6	5.3	S_QPSK	2/3	7.0
S2_QPSK	8/9	6.4	S_QPSK	3/4	8.0
S2_QPSK	9/10	6.6	S_QPSK	5/6	9.1
S2_8PSK	3/5	7.9	S_QPSK	7/8	9.8
S2_8PSK	2/3	8.0			

Viterbi BER : Bit error rate while the S_QPSK signal is being received. While the S2_QPSK or S2_8PSK signal is received, **** is displayed. If the value is 2e-4 or less, block noise is not caused by a problem in the tuner.

LDOP BER : Bit error rate while the S2_QPSK or S2_8PSK signal is being received. While the S_QPSK signal is received, **** is displayed.

PER : Packet error rate during reception. If the value is 0.000e-00, block noise is not caused by a problem in the tuner.

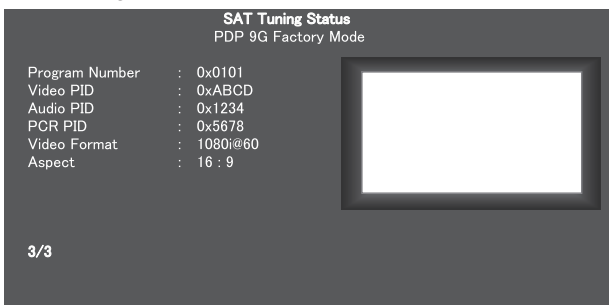
LNB POWER : Voltage currently being supplied to the LNB

LNB BAND : Frequency band that is currently set to the LNB

TS Bit Rate : TS Bit Rate of the signal currently being received

Time : Measured duration of Viterbi BER, LDOP BER, or PER. To reset the value to 0 and restart measuring, press the ◀ or ▶ key on the remote control unit.

SAT Tuning Status (3/3)



Program Number : No. of the program currently being received

Video PID : Video PID of the program currently being received

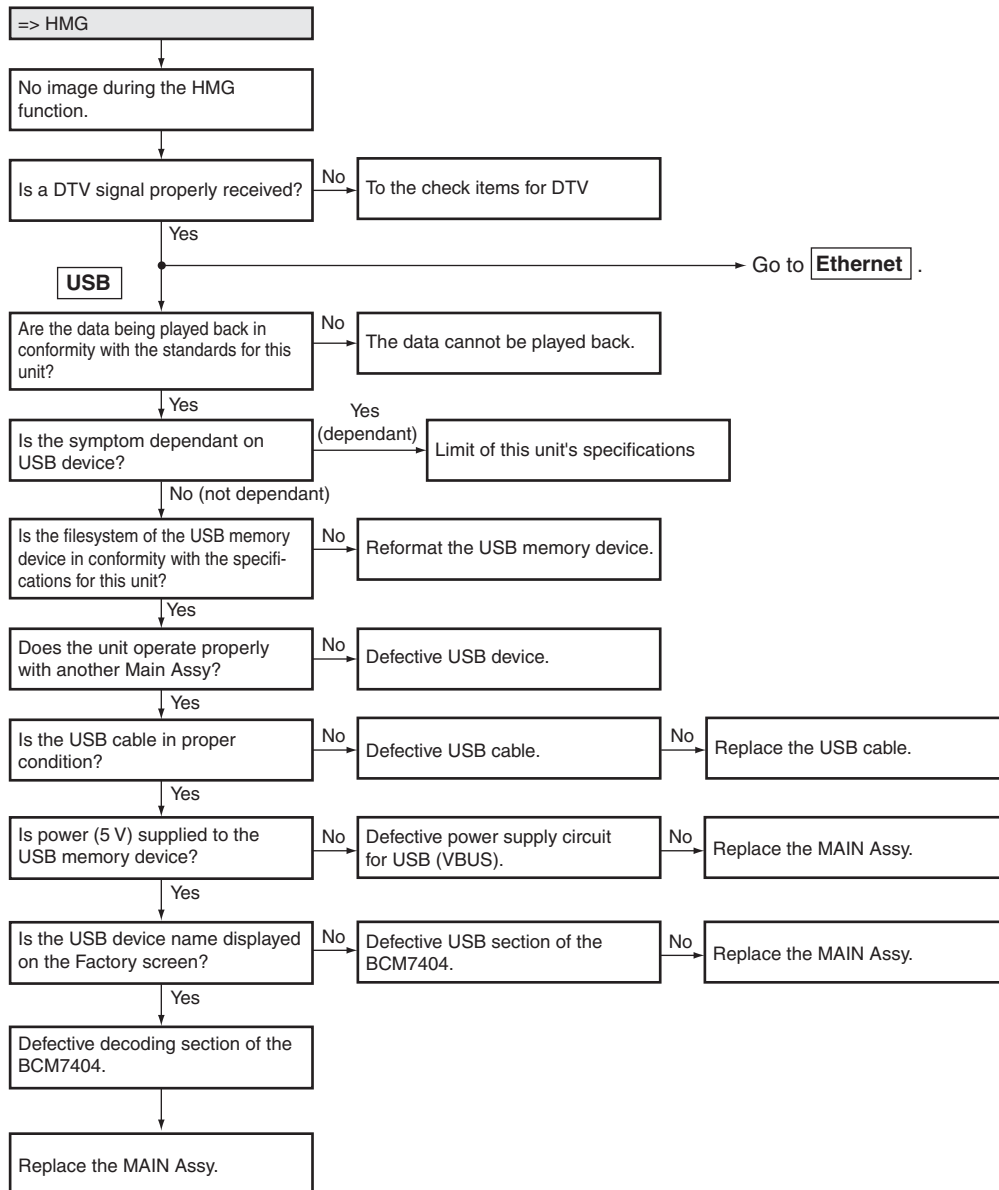
Audio PID : Audio PID of the program currently being received

PCR PID : PCR PID of the program currently being received

Video Format : Video Format of the program currently being received

Aspect : Aspect ratio of the program currently being received

Flowchart of Failure Analysis for The HMG



A

Ethernet

Can network functions be used with the PC (server) without any problem?

No

Defective network board of the PC.

Yes

Is the Link LED of the Ethernet terminal on the server side lit?

No

Is the cable OK?

No

Problem with the cable.

Yes

Defective Ethernet section on the MAIN Assy

Replace the MAIN Assy.

B

Is the MAC Address [00:e0:36:***:***:***] displayed on the network Setup screen?

No

The data specific to the MAIN Assy have been deleted.

No

Replace the MAIN Assy.

Yes

Is the HMG Setup correctly set?

No

Improper HMG Setup.

Yes

Can the server be selected (not grayed out) from the PDP?

No

Is the PC recognized by the server as a device?

No

Check the settings of the server again.

C

Yes

Can the files on the server be recognized?

Yes

Check the settings of the shared folder for the server again.

Yes

Defective decoding section of the BCM7404.

Replace the MAIN Assy.

Yes

Are the properties of the files displayed on the Factory screen?

No

Defective Ethernet section of the BCM7404.

No

Replace the MAIN Assy.

Yes

D

Defective decoding section of the BCM7404.

Replace the MAIN Assy.

[HMG] How to enter DTB Service menu

Note: Use the remote control unit that supports Factory mode, because the DTB Service menu is accessible from Factory mode.

Step 1: Press the Factory key on the remote control unit to display the INFORMATION screen of Factory mode.

Step 2: Press the Mute key on the remote control unit 3 times to display the INITIALIZE screen.

E

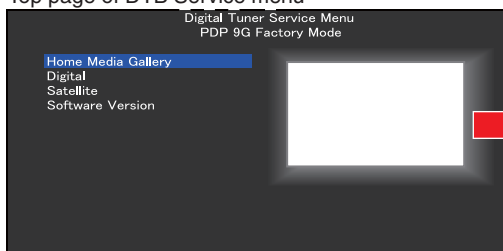
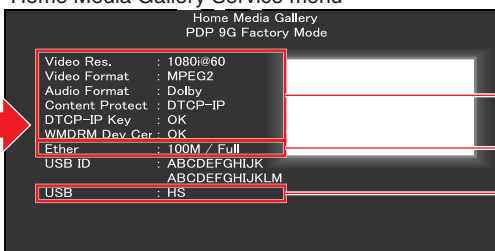
Step 3: Press the \downarrow key on the remote control unit twice to display the "DTB SERVICE MODE (+)" indication at the bottom of the screen.

Step 4: Press the ENTER/SET key on the remote control unit to display the "MODE SHIFT <=>: No" indication at the bottom of the screen.

Step 5: Press the \leftarrow or \rightarrow key on the remote control unit until the "MODE SHIFT <=>: YES" indication is displayed at the bottom of the screen.

Step 6: Press and hold the ENTER/SET key on the remote control unit pressed for 5 seconds or more to activate DTB Service menu.

The Home Media Gallery (HMG) Service menu is indicated below:

Top page of DTB Service menu**Home Media Gallery Service menu**

Content data

Ethernet connection data

USB device data

F

3.2 DIGITAL TUNER SERVICE MENU

The Digital Tuner Service Menu is provided for collecting data for technological examination when the Digital Tuner has any problem in the market. This menu is introduced here just for reference.

[1] REMOTE CONTROL CODE IN DIGITAL TUNER SERVICE MENU

The following remote control cord is valid in the Digital Tuner Service Menu.

Remote Control Keys	Basic Functions	Remarks
↓ (DOWN)	Selecting the menu items and shifting the pages.	Shifting downward to the next item. Moving to the next lower page.
↑ (UP)		Shifting upward to the next item. Moving to the next upper page.
← (LEFT)	Selecting the setting value.	Modifying the setting of selected items.
→ (RIGHT)		
ENTER/SET	Shifting the menu layers	Shifting to the next menu screen.
RETURN		Shifting to the previous menu screen.
Numeric Keys	Numeric input	Input the numerical value.
POWER OFF	Power OFF	Turning the power off.
STANDBY/ON		
FACTORY	Factory ON/OFF	Release the Menu, then enter the Service Factory menu.
EXIT	MENU exit	After you exit the menu, the channel that was selected on the menu will be displayed.
MUTING	Muting	
HOME MENU	HOME MENU ON/OFF	

[2] HIERARCHICAL TABLE OF DIGITAL TUNER SERVICE MENU

Item	Remarks
Large Item	
Middle Item	
6.3 [3] Digital Tuner Service Menu	
6.3 [4] HMG Service Menu	
	Exclusively used for technical analysis: HomeMediaGallery-related information indication
6.3 [5] Digital	
Bandwidth	Exclusively used for technical analysis
Frequency	Exclusively used for technical analysis
Program Number	Exclusively used for technical analysis
Audio PID	Exclusively used for technical analysis
DTV Tuning Status	Exclusively used for technical analysis: Terrestrial digital broadcasting-related information indication
6.3 [6] Satellite	
Modulation	Exclusively used for technical analysis
Frequency	Exclusively used for technical analysis
Symbol Rate	Exclusively used for technical analysis
LNB POWER	Exclusively used for technical analysis
LNB BAND	Exclusively used for technical analysis
Program Number	Exclusively used for technical analysis
Audio PID	Exclusively used for technical analysis
SAT Tuning Status	Exclusively used for technical analysis: Satellite digital broadcasting-related information indication
6.3 [7] Software Version	
	Exclusively used for technical analysis: The software revision information that consists of it in DTB software

[3] DIGITAL TUNER SERVICE MENU SCREEN

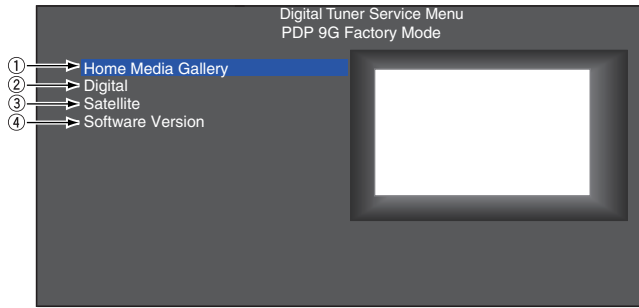


Fig.1 Digital Tuner Service Menu screen

Display a large item list of Digital Tuner Service Menu.
Select each item, and shift to each setting / information display screen.

- ① HomeMediaGallary-related information indication
- ② Terrestrial digital-related setting / information indication
- ③ Satellite digital-related setting / information indication
- ④ Digital Tuner-related detailed software version indication

[4] HOME MEDIA GALLERY SCREEN

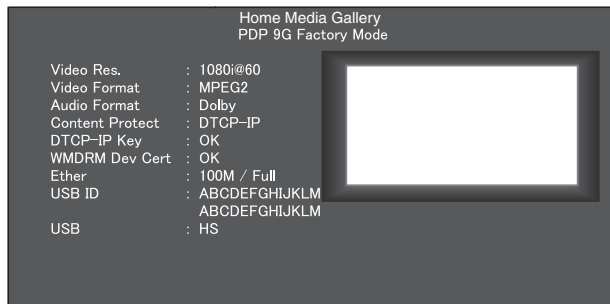


Fig.2 Home Media Gallery screen

Display the HomeMediaGallary-related information.

[5] DIGITAL SCREEN

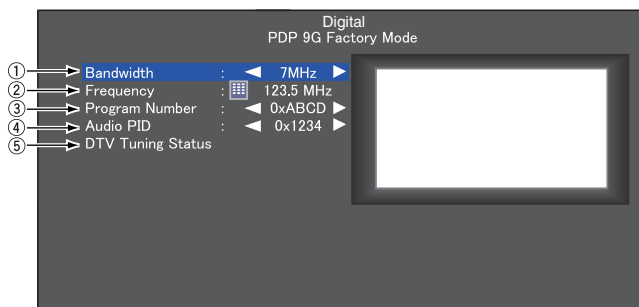


Fig.3 Digital screen

Display the Digital broadcasting-related setting / information indication.(except the satellite digital)

- ① The Bandwidth for receiving a digital broadcast can be selected. (7MHz/8MHz)
- ② The frequency can be set (up to 1 digit after the decimal point).
- ③ Program Number in the same stream: Service ID can be selected.
- ④ Audio PID in the same stream: Audio PID can be selected.
- ⑤ The DTV Tuning Status is displayed.

The data displayed on the DTV Tuning Status screen are as shown below:

The instructions for servicing using this screen is shown in "Details on how to confirm the factory DTV tuning status" of section 5.2 [6]. Therefore, this screen is introduced here just for reference.

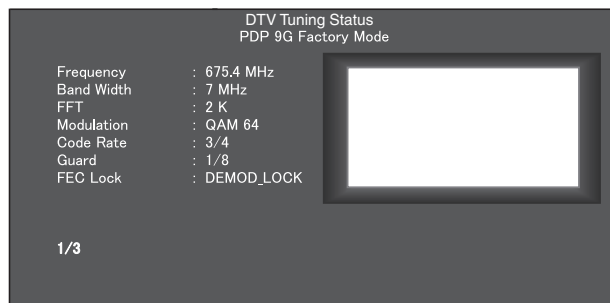


Fig.4 DTV Tuning Status (1/3) screen

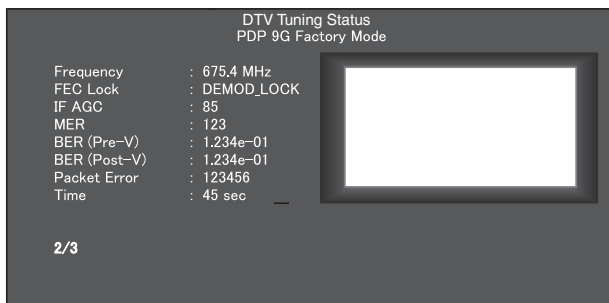


Fig.5 DTV Tuning Status screen (2/3) screen

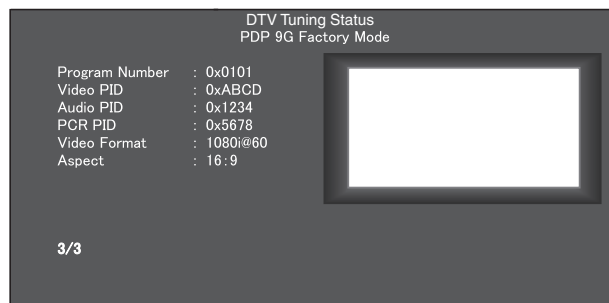


Fig.6 DTV Tuning Status screen (3/3) screen

[6] SATELLITE SCREEN

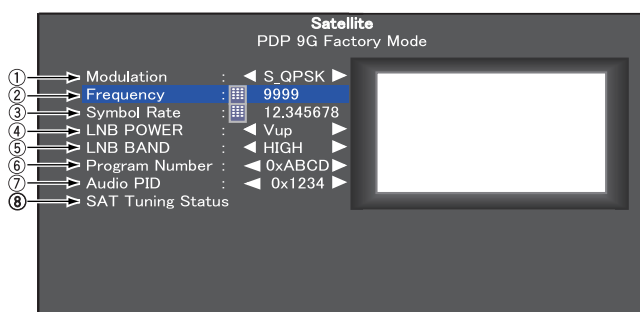


Fig.7 Satellite screen

Display the Satellite Digital broadcasting-related setting / information indication.

- ① The modulation method can be selected. (S_QPSK/S2_QPSK/S2_8PSK)
- ② The frequency can be set (0001 to 9999).
- ③ The symbol Rate can be set (1.000000 to 99.999999)
- ④ The LNB power voltage can be selected. (OFF/V/H/Vup/Hup)
- ⑤ The LNB Bandwidth can be selected. (Low/High)
- ⑥ Program Number in the same stream: Service ID can be selected.
- ⑦ Audio PID in the same stream: Audio PID can be selected.
- ⑧ The Tuning Status of Satellite Digital is displayed.

The data displayed on the SAT Tuning Status screen are as shown below:

The instructions for servicing using this screen will be provided as service information.

Therefore, this screen is introduced here just for reference.

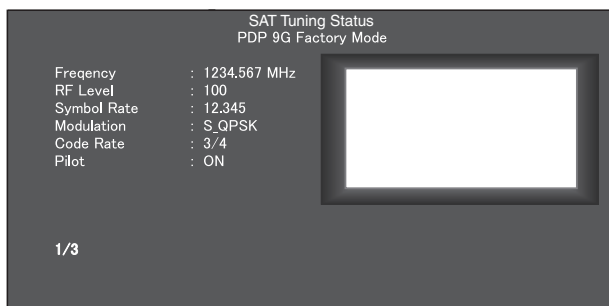


Fig.8 SAT Tuning Status (1/3) screen

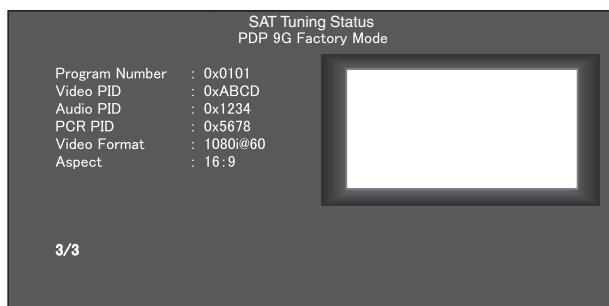


Fig.10 SAT Tuning Status (3/3) screen

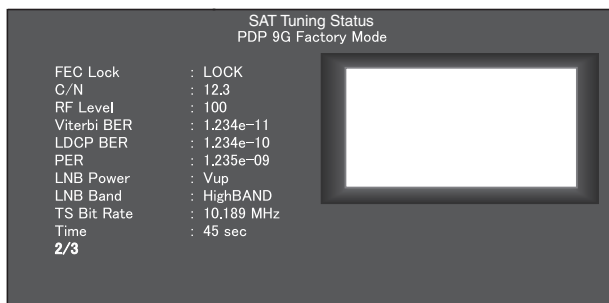


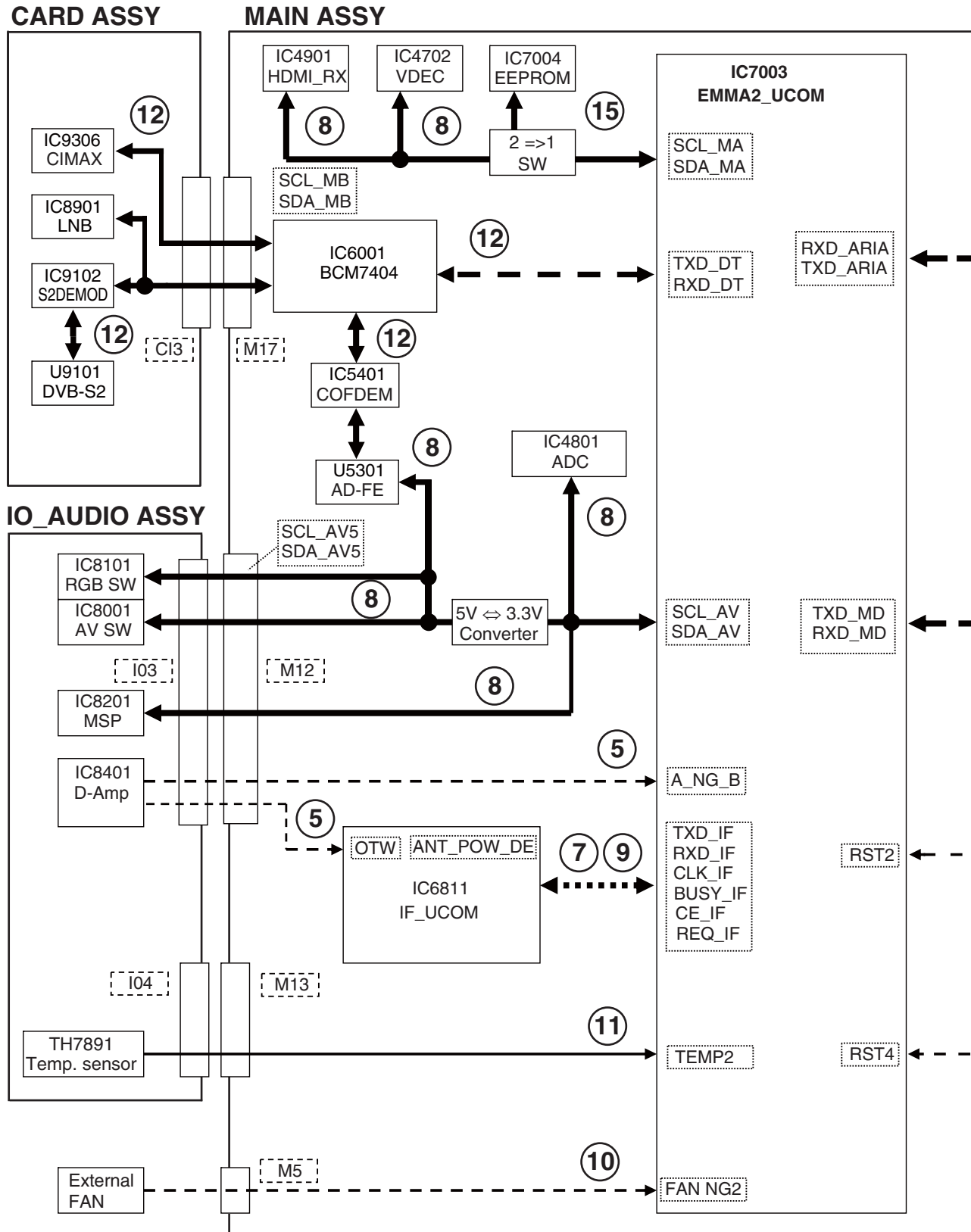
Fig.9 SAT Tuning Status (2/3) screen

[7] SOFTWARE VERSION SCREEN

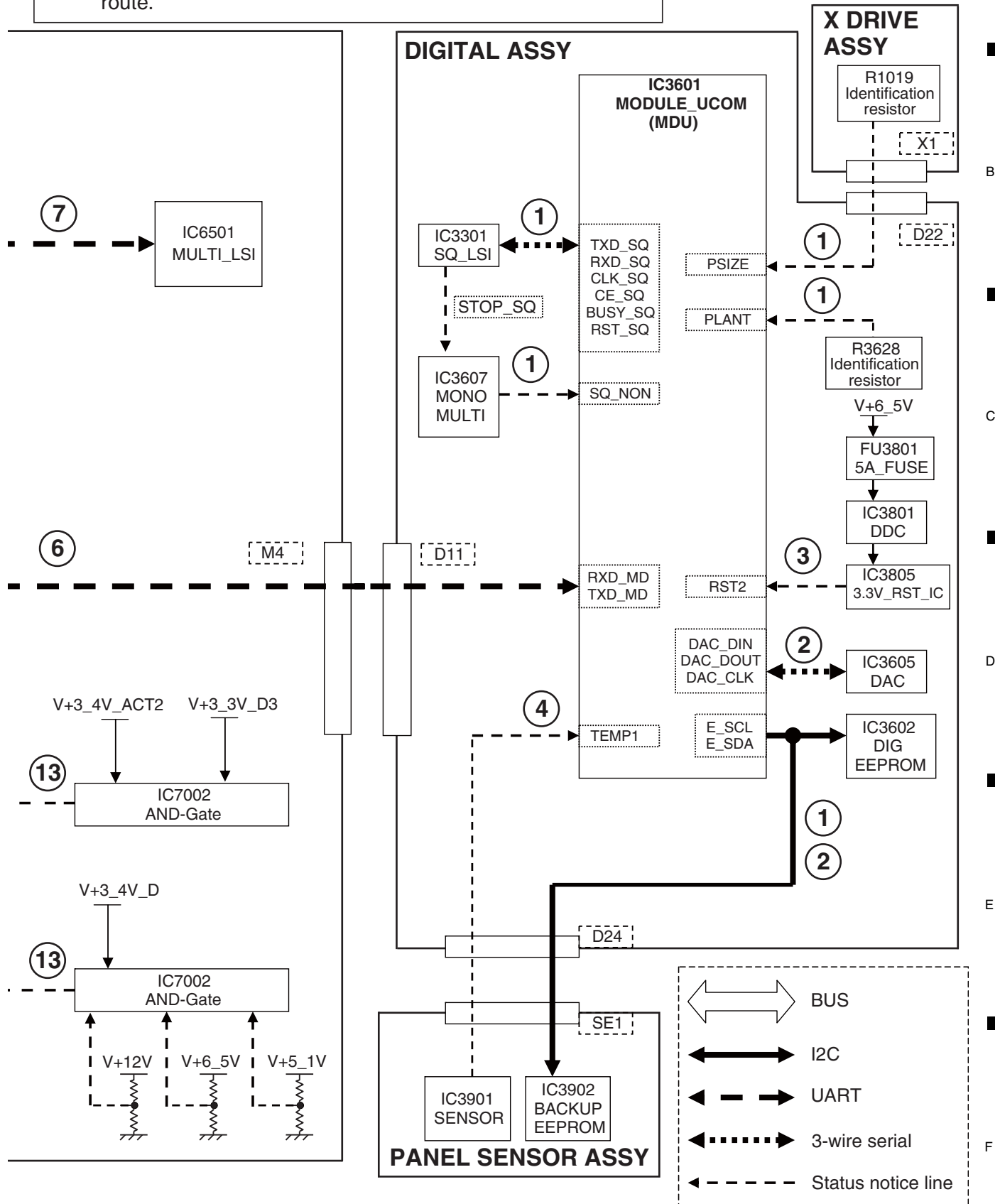
The details are not described here, as this is provided for technical examination.

3.3 DIAGNOSIS OF SD (SHUTDOWN)

[1] BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL



Note : The figures ① to ⑮ indicate the number of times the Blue LED flashes when shut-down occurs in the corresponding route.



A [2] SD (SHUTDOWN) DIAGNOSIS

Frequency of LED Flashing (*1)		Major Type	Detailed Type	Log Indication in Factory Mode		
				MAIN	SUB	
Blue 1	Orange 1	Abnormality in the Sequence LSI	Communication error	SQ-LSI	RTRY	
	Orange 2		Drive stop		SQNO	
	Orange 3		Busy		BUSY	
	Orange 4		Version mismatching (hardware, software)		VER-HS	
	Orange 5		Version mismatching (hardware, backup memory)		VER-HM	
	Orange 6		Version mismatching (hardware, DIGITAL memory)		VER-HI	
Blue 2	Orange 1	Failure in MDU device communication	Digital EEPROM	MD-DEV	EEPROM	
	Orange 2		Backup EEPROM		BACKUP	
	Orange 3		DAC IC		DAC	
Blue 3	—	Abnormality in RST2 power decrease	—	RST2	—	
Blue 4	Orange 1	Abnormality in panel temperature	Abnormality in high temperature	TMP-NG	TMP-H	
	Orange 2		Abnormality in low temperature		TMP-L	
Blue 5	Orange 1	Short-circuiting of the speakers D-AMP temperature abnormality	—	AUDIO	—	
	Orange 2				OTW	
Blue 6	—	Failure in communication with the module microcomputer	—	MODULE	—	
Blue 7	Orange 1	Failure in IF microcomputer	IF microcomputer	MA-3L	IF	
	Orange 2	3-wire serial communication	MULTI		MULTI	
Blue 8	Orange 1	Failure in IIC communication with the main microcomputer	Tuner 1	MA-IIC	FE1	
	Orange 2		MSP/MAP		MSPMAP	
	Orange 3		AV switch		AV-SW	
	Orange 4		RGB switch		RGB-SW	
	Orange 5		Main VDEC		VDEC	
	Orange 6		VDEC SDRAM		SDRAM	
	Orange 7		AD/PLL		ADC	
	Orange 8		HDMI		HDMI	
Blue 9	—	Failure in communication with the main microcomputer	—	MAIN	—	
Blue 10	Orange 2	Abnormality in FAN	FAN2	FAN	FAN2	
Blue 11	—	High temperature of the unit	—	TEMP2	—	
Blue 12	Orange 1	Digital Tuner	DTV startup error	DTUNER	PS/RST	
	Orange 2		DTV communication error		RETRY	
	Orange 3		DEVICE error		DEVICE	
	Orange 7		Tuner 1		DE-FE	
	Orange 18		Application		DTVAPP	
	Orange 19		COFDEM		DEMOD	
	Orange 20		Tuner S2		DE-FES	
	Orange 21		S2DEMOD		DEMODS	
	Orange 22		LNB		DE-LNB	
	Orange 1		DC-DC Converter power decrease	RST-MA	M-DCDC	
Blue 13	Orange 2	Failure in the power supply	POWER SUPPLY		RELAY	
Blue 15	—	Main EEPROM	Main EEPROM communication error	MA-EEP	—	
—	—		DTV Antenna	DTUNER	D-ANT	
—	—		Satellite Antenna	DTUNER	S-ANT	

*1: If the DISPLAY key is pressed during shutdown (the blue LED is flashing), flashing of the orange LED, which indicates the subcategory, can be confirmed.
The blue LED remains flashing. Pressing the DISPLAY key again will make the orange LED go dark.

Checkpoint	Possible Defective Part	Remarks
Communication line between MDU and SQ_LSI	IC3601/IC3301	SQ_IC communication not established. IC3301 may not have properly started up.
Drive detectig signal of MDU (SQ_NON)	CN3201/IC3601/ IC3301/IC3607	A shutdown occurs if the drive waveform periodically does not output. (When SQ_NON of MDU input is High, a shutdown is generated.)
Communication line between MDU and SQ_LSI (BUSY_SQ)	IC3601/IC3301	If BUSY_SQ remains high, a shutdown is generated.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connection between [X1] and [D22].	IC3601/IC3301	When the identification resistor of PSIZE/PLANT and software version of SEQ are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22], and [SE1] and [D24]. Communication line between MDU and BACKUP EEPROM	IC3601/ SENSOR Assy(IC3902)	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the SENSOR Assy are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22]. Communication line between MDU and DIG EEPROM	IC3601/IC3602	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the DIGITAL Assy are incoherent, a shutdown occurs.
Communication line between MDU and DIG EEPROM	IC3601/IC3602	
Communication line between MDU and BACKUP EEPROM	IC3601/SENSOR Assy(IC3902)	
Communication line between MDU and DAC	IC3601/IC3605	
3.3 V output (TP3881) of DDC	IC3801/IC3805	If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.
V+6.5V of POWER SUPPLY Unit (Check [D25][P4]) FU3801 has melted.	POWER SUPPLY Unit, FU3801	Check if V + 6.5 V is started. Also check if the FU3801 on the DIGITAL Assy has been melted.
Installation environment	SENSOR Assy (IC3901)	If TEMP1 that is read by the module microcomputer is 85 °C or higher, a shutdown will be generated.
Installation environment Check the connection between SE1 and D24.	SENSOR Assy (IC3901)	A shutdown occurs if the reading of TEMP1 detected by the module micro-computer is -20 °C or less. Also check the connection between SE1 and D24.
Speaker terminals	JA8551	Check if any speaker cable is in contact with the chassis.
D_AMP	IC8401	Check if the AMP output is short-circuited.
Periphery of the cable between IO3 and M12, and IO4 and M13	CN7503,CN7504, CN4003,CN4004	Check if cables are firmly connected.
D_A, MP	IC8401	Check the temperature that is 125 °C or more.
Communication line between MAIN and MOD	IC7003	Check the communication lines (TXD_MOD/RXD_MOD).
Periphery of the cable between D11 and M12	CN4101,CN4105	Check if cables are firmly connected.
Communication line between IF and MAIN	IC7003,IC6501	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Communication line between MULTI and MAIN	IC7003,IC6501	Check the communication lines (TXD_ARIA/RXD_ARIA).
IIC communication line between Tuner and MAIN	U5301,IC7003	Check the communication lines (SCL_TU/SDA_TU or SCL_AV/SDA_AV).
IIC communication line between MSP/MAP and MAIN	IC8201,IC7003	Check the communication lines (SCL_AV/SDA_AV).
IIC communication line between AV-SW and MAIN	IC8001,IC7003	Check the communication lines (SCL_AV5/SDA_AV5).
IIC communication line between RGB_SW and MAIN	IC8101,IC7003	Check the communication lines (SCL_AV5/SDA_AV5).
IIC communication line between M_VDEC and MAIN	IC4702,IC7003	Check the communication lines (SCL_MB/SDA_MB).
IIC communication line between VDEC and SDRAM	IC4702,IC4802	Check the communication lines (SDRAM). Defective SDRAM
IIC communication line between ADC and MAIN	IC4801,IC7003	Check the communication lines (SCL_AV/SDA_AV).
IIC communication line between HDMI_RX and MAIN	IC4901,IC7003	Check the communication lines (SCL_MB/SDA_MB).
Communication line between IF and MAIN	IC6811,IC7003	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Dirt attached to the fan motor		Check the fan. (SD10 does not detect it at the temperature that fans do not turn.)
Periphery of the FAN CONNECT Assy		FAN NG
Periphery of the cable between FA1 and FA3		Check if cables are firmly connected.
Periphery of the fan control regulator	IC4303	Check that the voltage outputs it.
Ambient temperature		TEMP2 A shutdown occurs because of high temperature.
Temperature sensor or its periphery	TH7891	TEMP2
Periphery of the cable between IO4 and M13	CN7504,CN4004	Check if cables are firmly connected.
Startup of BCM7404	IC6001	Check the startup of the BCM7404 and the communication line with MAIN.
Communication line between BCM7404 and MAIN	IC6001	Check the startup of the BCM7404 and the communication line with MAIN.
Periphery of the BCM7404	IC6001	
Front-end block	IC6001,U5301	Check the BCM7404 and periphery circuit.
DTV application	IC6001	
COFDEM	IC5401	Check the communication line between BCM7404 and COFDEM.
Tuner S2	U9101	Check the communication line between COFDEM and F.E..
S2DEMOD	IC9102	Check the communication line between BCM7404 and S2DEMOD.
LNB	IC8901	Check the communication line between BCM7404 and LNB.
RST2 V+3_4V_ACT2, V+3_3V_D3	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V, V+3_4V_D	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V, V+3_4V_D	POWER SUPPLY Unit	Check if each voltages are started.
Check the cables M2 and M3.	CN4207, CN4210	Check if cables are firmly connected.
IIC communication line between EEPROM and MAIN	IC7004, IC7003	Check the communication lines (SCL_EP/SDA_EP)
DTV Antenna supply power	IC4304	Check the IC4304 and periphery device.
Satellite Antenna supply power	IC8901	Check the IC8901 and periphery device. (This Log is correspondence to the running change.)

1234

4. DISASSEMBLY

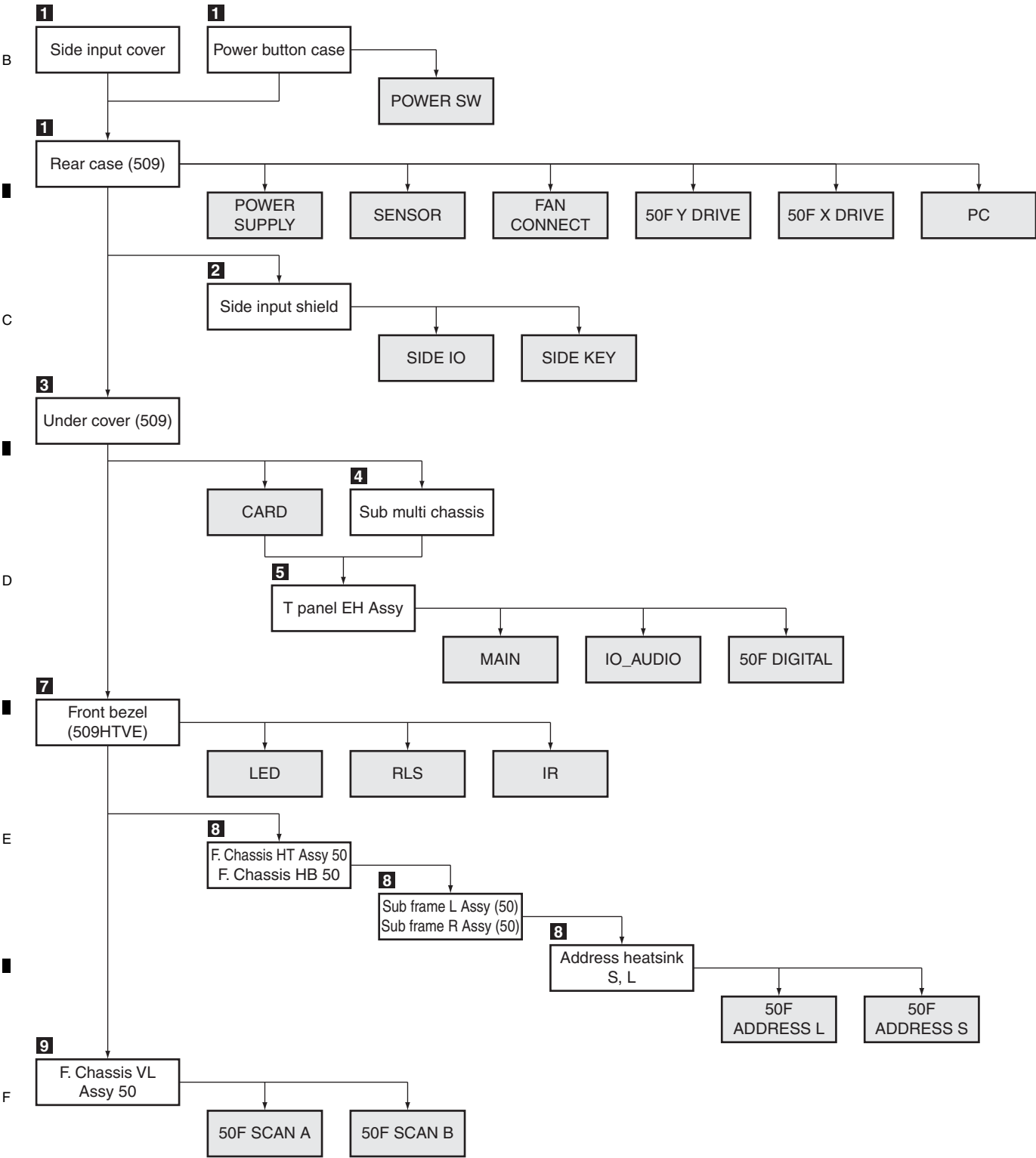
4.1 FLOWCHART OF REMOVAL ORDER

A

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Flowchart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



Disassembly

1 Rear Case (509)

● Power button case

① Remove the two screws. (ABA1379)

② Remove the power button case.

● Side input cover

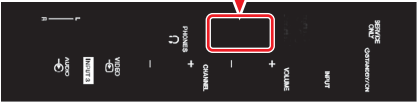
③ Remove the two screws. (ABA1378)

④ Remove the two screws. (ABA1377)


⑤ Remove the side input cover.

A cutout for an HDMI connector is provided on the side input cover, and the side label is attached over the cutout. Be careful not to accidentally push on the area of the label indicated in the figure below, because that area will become indented.

Side label




Side input cover

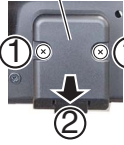


● Screw tightening order

The other screws are random order.




Power button case



POWER SW Assy

● Screw tightening order



● Rear case (509)



⑥ Remove the two screws. (ABA1380)

⑦ Remove the two screws. (ABA1379)

⑧ Remove the 25 screws. (ABA1377)

⑨ Remove the rear case (509).

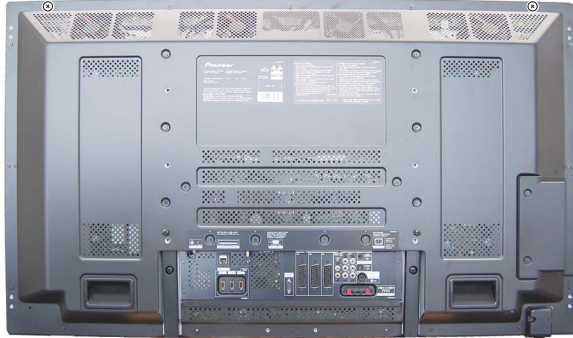
Reference

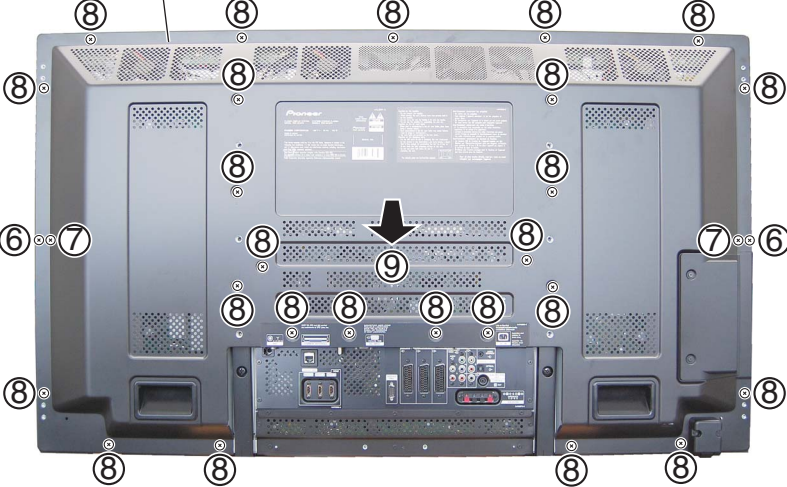
ABA1377 ABA1378

● Screw tightening order

The other screws are random order.



Rear case (509)



PDP-LX5090H

5

6

7

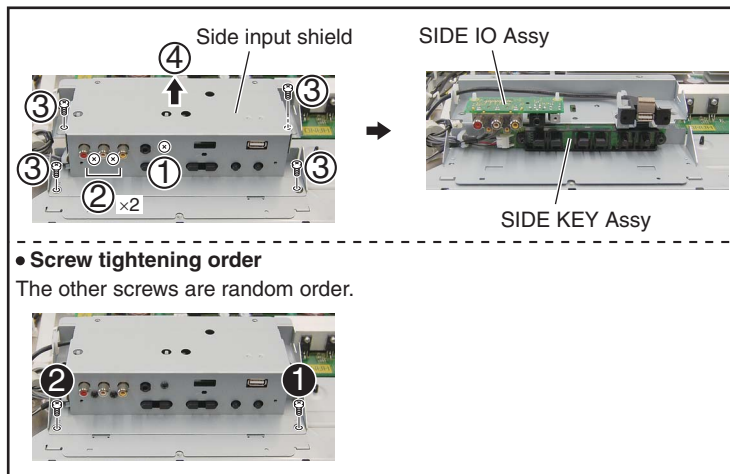
8

43

A

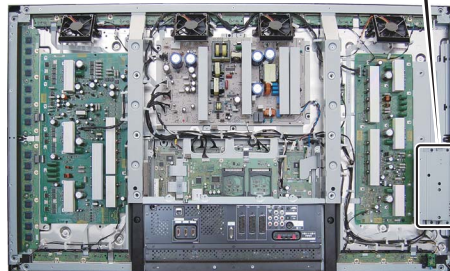
2 Side Input Shield

- ① Remove the one screw. (BMZ30P080FTB)
- ② Remove the two screws. (BPZ30P080FTB)
- ③ Remove the four screws. (AMZ30P060FTB)
- ④ Remove the side input shield.



B

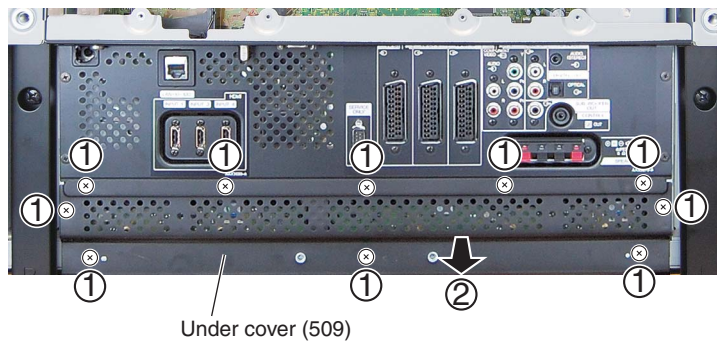
C



D

3 Under Cover (509)

- ① Remove the 10 screws. (ABA1377)
- ② Remove the under cover (509).



E

Screw tightening order

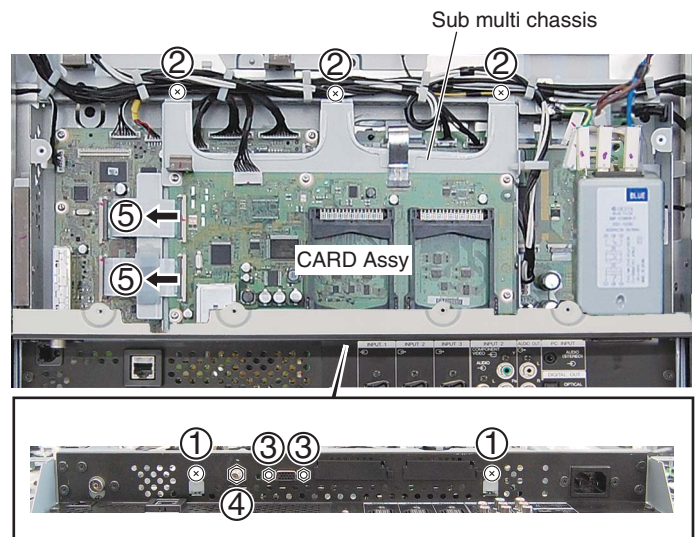
The other screws are random order.



F

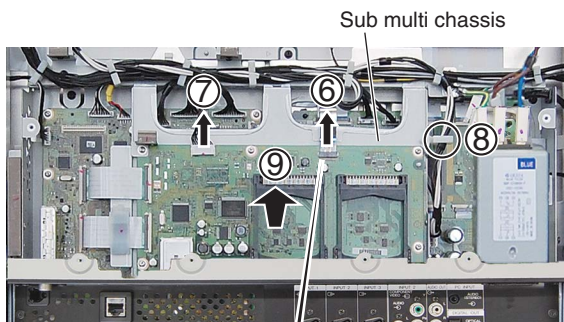
4 Sub Multi Chassis

- ① Remove the two screws. (ABA1377)
- ② Remove the three screws. (AMZ30P060FTB)
- ③ Remove the two hexagon head screws. (ABA1382)
- ④ Remove the one washer faced nut. (BBN1005)
- ⑤ Disconnect the two flexible cables.



Exchange

- ⑥ Disconnect the one flexible cable.
- ⑦ Disconnect the one connector.
- ⑧ Release the jumper wire from the wire saddle.
- ⑨ Remove the sub multi chassis with PC board.



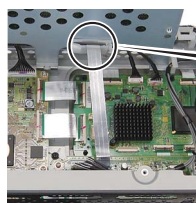
Note on connection

IO_AUDIO Assy side

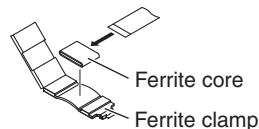
Folded side

Part number marking

CARD Assy side

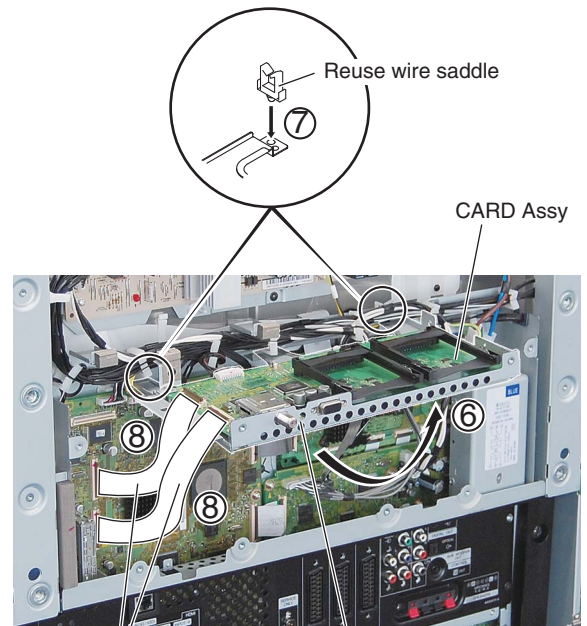


Do the flexible cable through the ferrite core.



Diagnosis

- ⑥ Lift the sub multi chassis to the direction of the arrow.
- ⑦ Fix the sub multi chassis to the product with two reuse wire saddles.
- ⑧ Connect the two flexible cables for service.

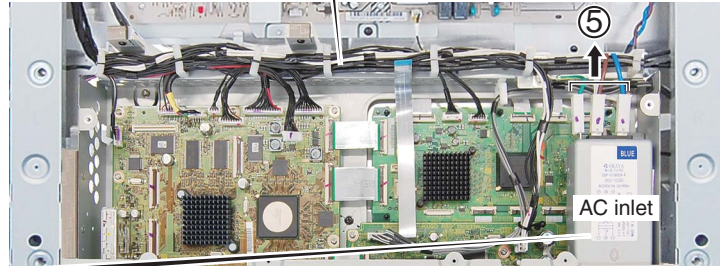
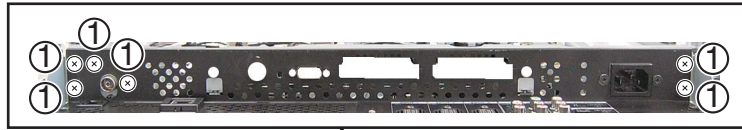


Flexible cable for service (GGP1048)

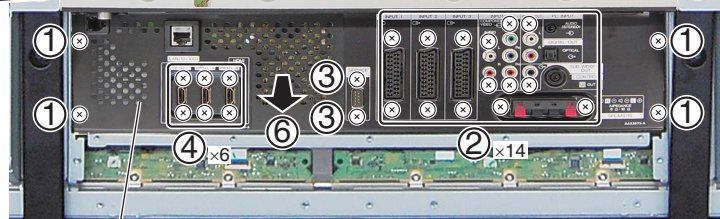
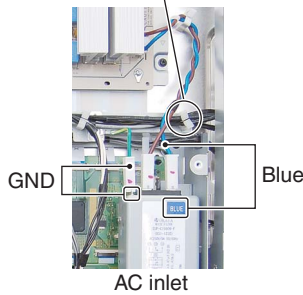
Sub multi chassis

5 T Panel EH Assy

- ① Remove the 10 screws. (ABA1377)
- ② Remove the 14 screws. (BPZ30P080FTB)
- ③ Remove the two hexagon head screws. (ABA1382)
- ④ Remove the six screws. (BMZ30P060FTB)
- ⑤ Disconnect the three connectors.
- ⑥ Remove the T panel EH Assy.



Do NOT pass the AC inlet jumper wire through this wire saddle.



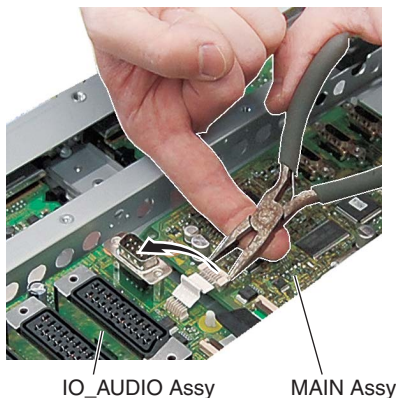
T panel EH Assy



Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

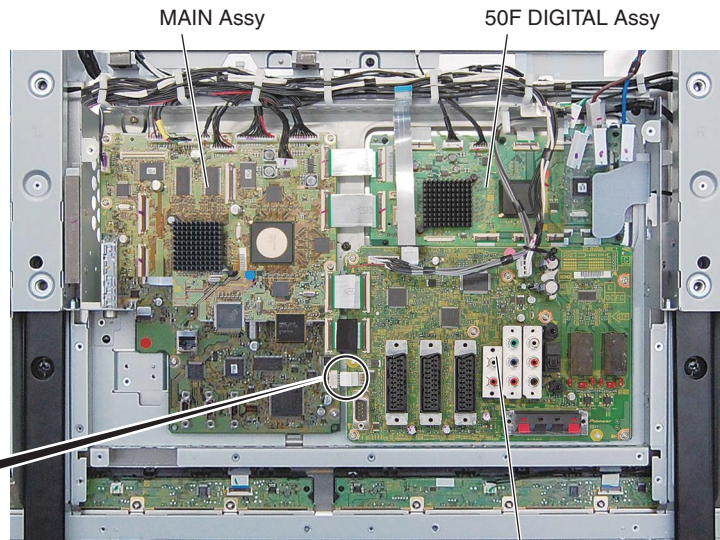
How to remove the bridge connector

- (1) Grip the two short edges of the connector with longnose pliers.
- (2) Insert a finger between the longnose pliers and the board to protect the board and the mounted parts on the board from accidental damage by the pliers then, using your finger as a fulcrum and the pliers as a lever, pry the connector upward to remove it.



IO_AUDIO Assy

MAIN Assy



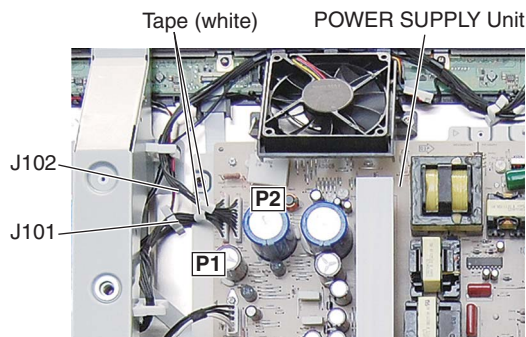
IO_AUDIO Assy



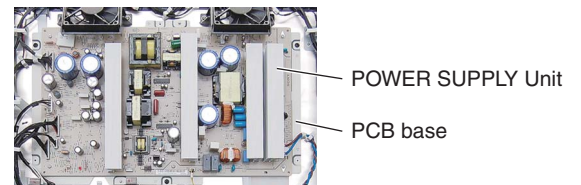
Notes on Lead Dressing

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

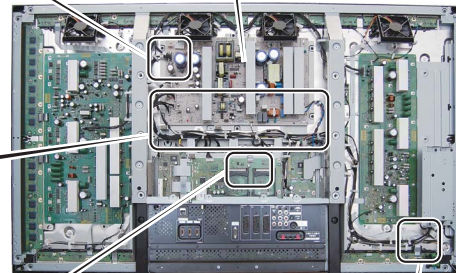
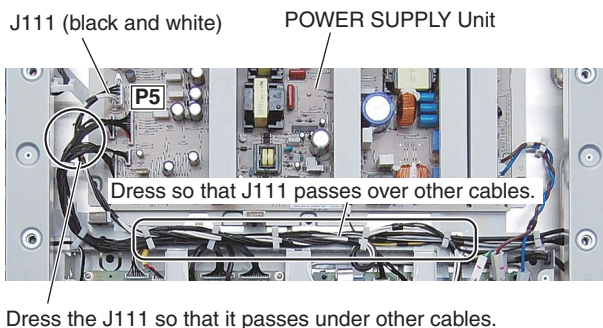
The J101 and J102 cables require correct orientation for connection. Connect the connectors with white tape to the POWER SUPPLY Unit.



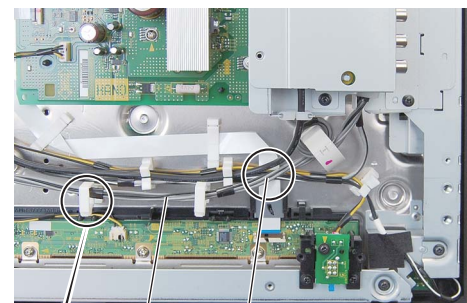
When removing the POWER SUPPLY Unit, be sure to remove not only the POWER SUPPLY Unit but entire PCB base.



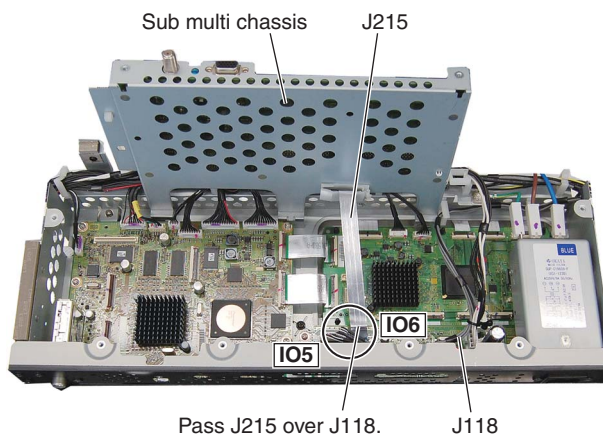
Around the periphery of the Multibase, the J111 cable wires (black and white) must be bound lastly then be dressed so that they pass over other cables.



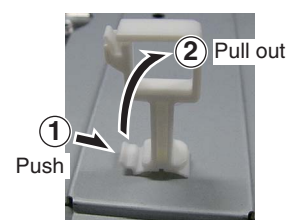
Dress the J118 cable so that it passes over other cables.



The J215 cable must be passed over the J118 cable.



How to remove the newly adopted wire saddle from the chassis



6 Access to 50F DIGITAL Assy

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

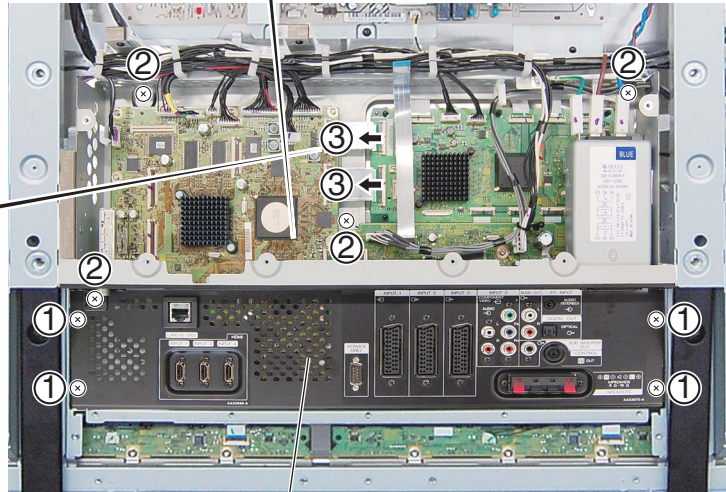
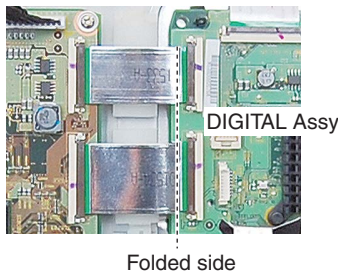
Note:

When you remove whole Multibase Section, it is not necessary to remove T panel EH Assy.

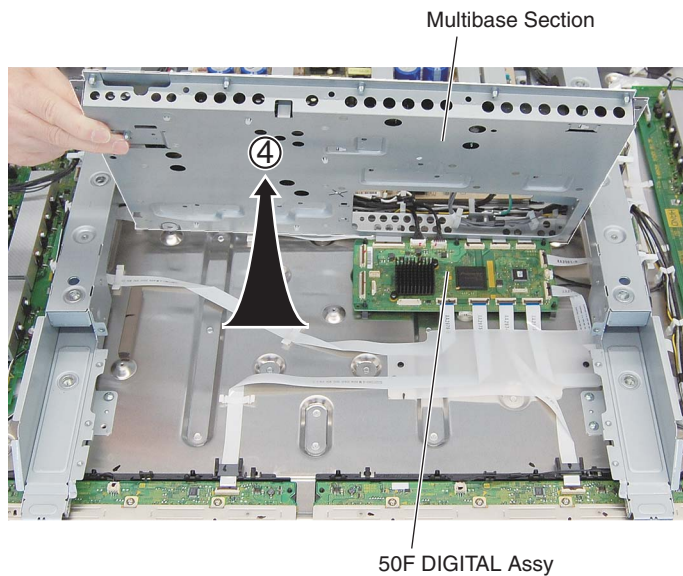
- ① Remove the six screws. (ABA1377)
- ② Remove the four screws. (ABA1351)
- ③ Disconnect the two flexible cables.

Note on connection of the flexible cable

This flexible cables requires correct orientation for connection. Connect the folded side of the cable to the connector on the DIGITAL Assy, as shown in the photo below. **Reversely connecting the cable will damage the Assy.**

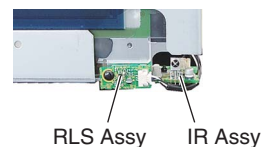
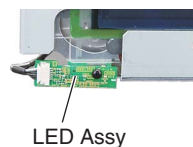
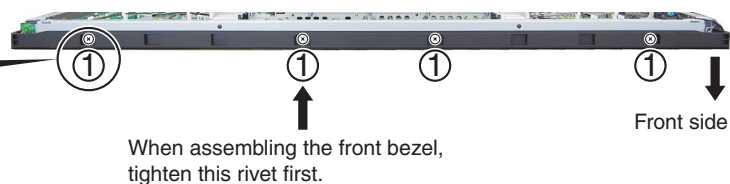
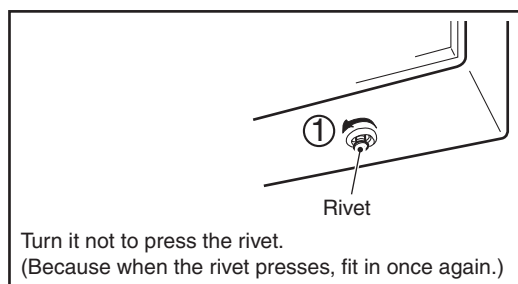
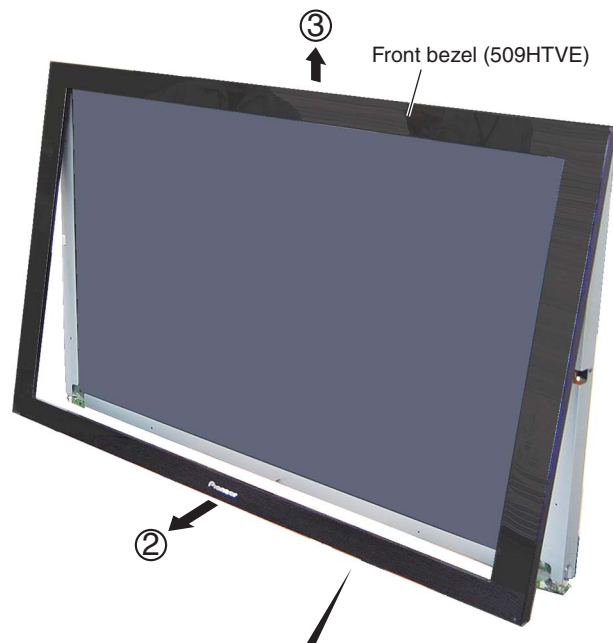


- ④ Lift the Multibase Section to the direction of the arrow.



7 Front Bezel (509HTVE)

- ① Remove the four rivets.
- ② Pull the lower part of the front bezel (509HTVE) toward you and out.
- ③ Remove the front bezel (509HTVE), by pulling it upward.

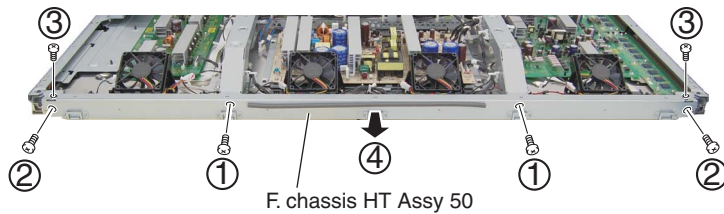


A

8 Access to ADDRESS L and S Assys

● F. Chassis HT Assy 50

- ① Remove the two screws. (AMZ30P060FTB)
- ② Remove the two screws. (ABZ30P080FTC)
- ③ Remove the two screws. (AMZ30P060FTB)
- ④ Remove the F. chassis HT Assy 50.



B

■ Screw tightening order

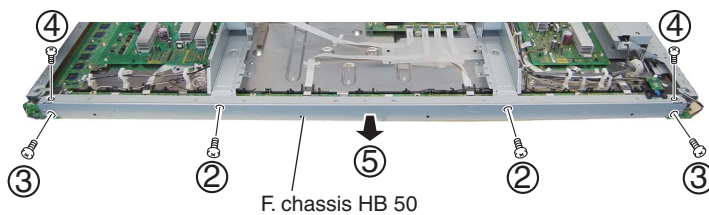
The other screws are random order.



C

● F. Chassis HB 50

- ① Disconnect cables, connectors, as required.
- ② Remove the two screws. (AMZ30P060FTB)
- ③ Remove the two screws. (ABZ30P080FTC)
- ④ Remove the two screws. (AMZ30P060FTB)
- ⑤ Remove the F. chassis HB 50.



D

■ Screw tightening order

The other screws are random order.



E

F

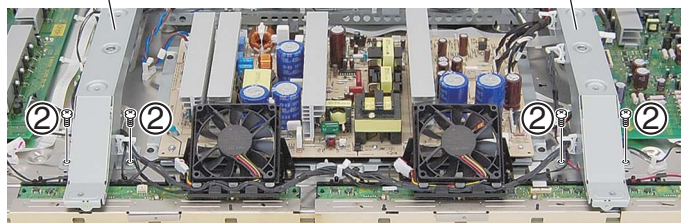


● Sub frame L and R Assys

- ① Disconnect cables, connectors, as required.
- ② Remove the four screws. (TBZ40P060FTC)

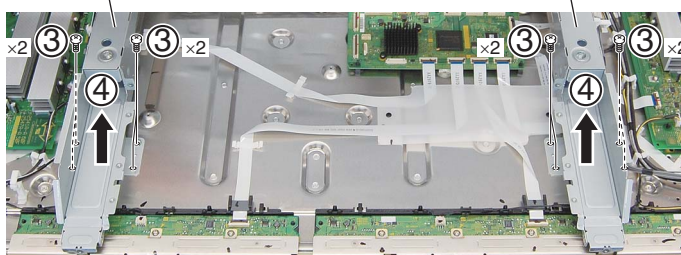
Sub frame R Assy (50)

Sub frame L Assy (50)



Sub frame L Assy (50)

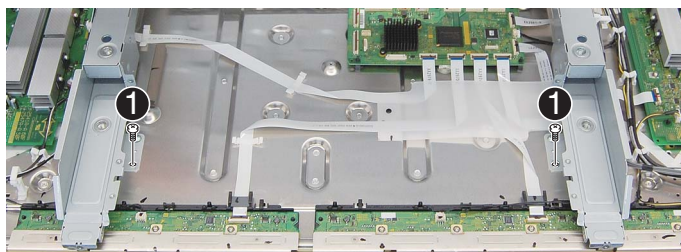
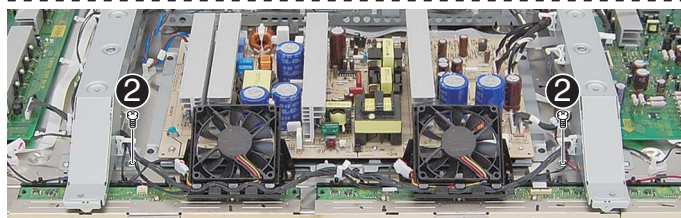
Sub frame R Assy (50)



- ③ Remove the eight screws. (TBZ40P060FTC)
- ④ Remove the sub frame L and Assys.

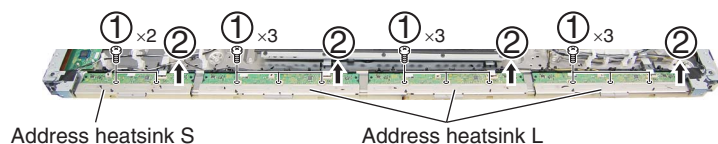
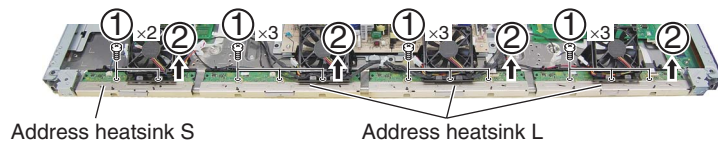
■ Screw tightening order

The other screws are random order.

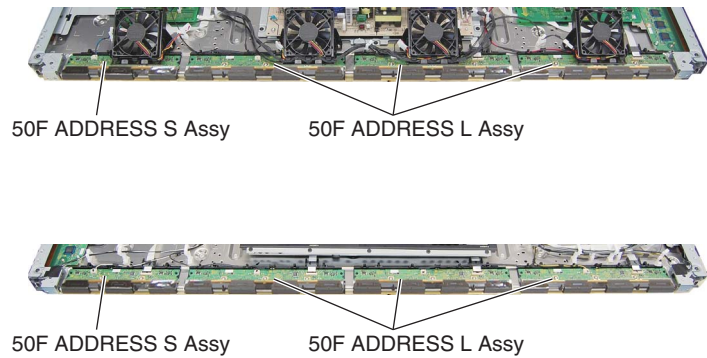


● Address heatsink S , L

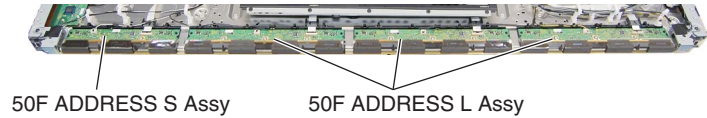
- ① Remove the 22 screws. (ABA1351)
- ② Remove the two address heatsinks S and six address heatsinks L.



A



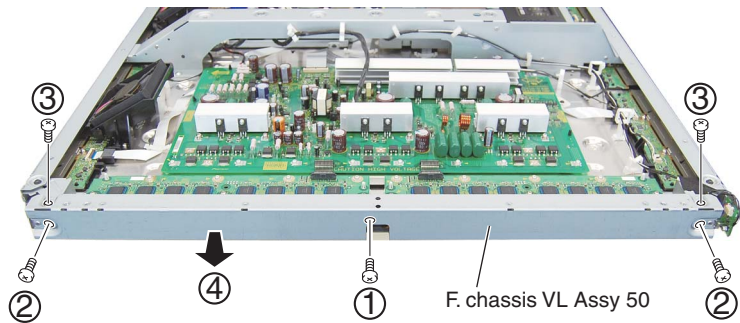
B



C

9 Access to SCAN A and B Assys

- ① Remove the one screw. (APZ30P080FTB)
- ② Remove the two screws. (ABZ30P080FTC)
- ③ Remove the two screws. (AMZ30P060FTB)
- ④ Remove the F. chassis VL Assy 50.



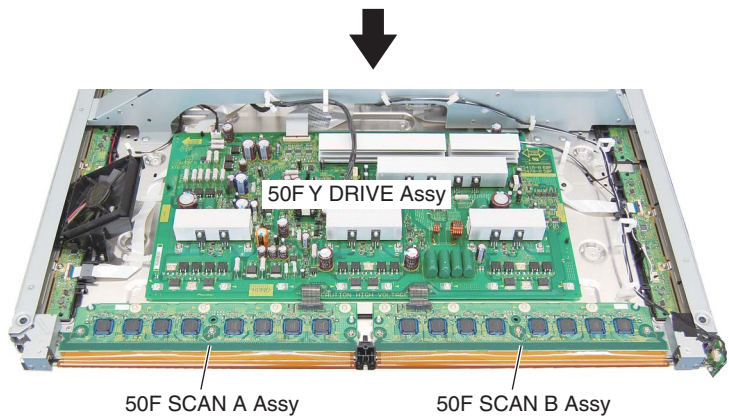
D

Screw tightening order

The other screws are random order.



E



F



1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

5.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

For each setting and adjustment when each PCB Assy and parts are replaced, refer to the original service manual (ARP3480).

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA” .
DIGITAL Assy	➡	Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”.
X DRIVE Assy	➡	No adjustment required
Y DRIVE Assy	➡	No adjustment required
Service Panel Assy	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA” and “8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED”.
MAIN Assy (*)	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
IO AUDIO Assy	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
PANEL SENSOR Assy	➡	No adjustment required Backup data are automatically copied during the next power-off.
CARD Assy	➡	No adjustment required
Other assemblies	➡	No adjustment required

(*) : When replacing the MAIN Assy, be sure to perform the FINAL SETUP.

■ When any of the following assemblies is repaired

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.

If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2556	MAIN Assy	IC5002	EEPROM	BR24L02FV-W
		IC5003	EEPROM	BR24L02FV-W
		IC5004	EEPROM	BR24L02FV-W
		IC6001	System IC	BCM7404XKPB11G
		IC7004	EEPROM	BR24L64F-W
		IC6201	DDR SDRAM	EDD5116AFTA-5B-E
		IC6202	DDR SDRAM	EDD5116AFTA-5B-E
		IC6203	DDR SDRAM	EDD5116AFTA-5B-E
		IC6204	DDR SDRAM	EDD5116AFTA-5B-E
		IC6403	Flash ROM	AGC1083
		IC6701	Flash ROM	AGC1079
		IC6811	Flash UCOM	AGC1072
AWW2543	DIGITAL Assy	IC7202	Flash ROM	AGC1074
		IC3302	Flash ROM	AGC1071
		IC3601	Flash UCOM	AGC1070
AWV2558	CARD Assy	IC9602	EEPROM	BR24L01AFJ-W
AWW2546	X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWW2547	Y DRIVE Assy	• Parts of Y VF D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 2		

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

For the parts described in the table below, replacement of individual parts is difficult, because a heat pad is provided under the bottom of the ICs.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2556	MAIN Assy	IC4501	DC/DC Converter	LTC3407EMSE-2
		IC4901	HDMI Rx	SII9125CTU
AWW1354	IO AUDIO Assy	IC8401	Digital Amp	TAS5122DCA

POWER SUPPLY Unit	➔	The assembly must be replaced as a unit, and no part replacement is allowed.	A
MAIN Assy	➔	No adjustment is required after replacement of parts other than those shown in "8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED."	
IO AUDIO Assy	➔	No adjustment is required after replacement of parts other than those shown in "8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED."	
DIGITAL Assy	➔	No adjustment required	B
X DRIVE Assy	➔	No adjustment is required after replacement of parts other than those shown in "8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED."	
Y DRIVE Assy	➔	No adjustment is required after replacement of parts other than those shown in "8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED."	
ADDRESS Assy	➔	No adjustment required	C
PANEL SENSOR Assy	➔	No adjustment required	
CARD Assy	➔	No adjustment required	
Other assemblies	➔	No adjustment required	

D

E

F

A

■ Preparation

Expand the image-file folder for USB updating in the root directory of the USB memory device.

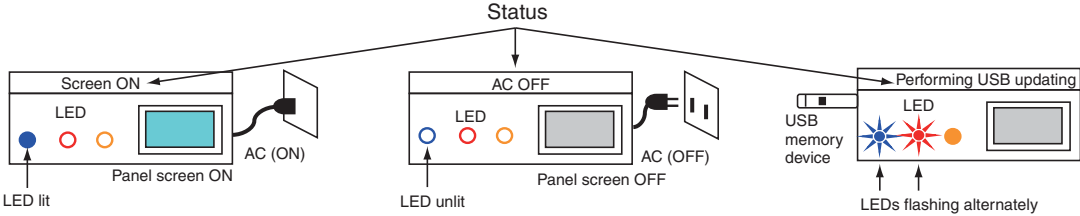
Example: Folder construction after expansion in the root directory of the USB memory device

(With the nonencrypted folder)	[update] ├─ boot.img ├─ update.ctl ├─ update.iso └─ update.lst
(With the encrypted folder)	[update] ├─ boot.img ├─ update.ctl ├─ update.enc ├─ update.key └─ update.lst

An encrypted image-file folder for USB updating will be released for general users.

B

■ Description of the figures

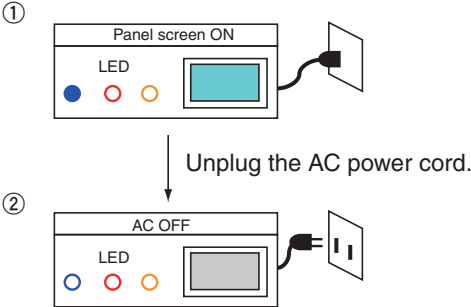


C

■ Procedures

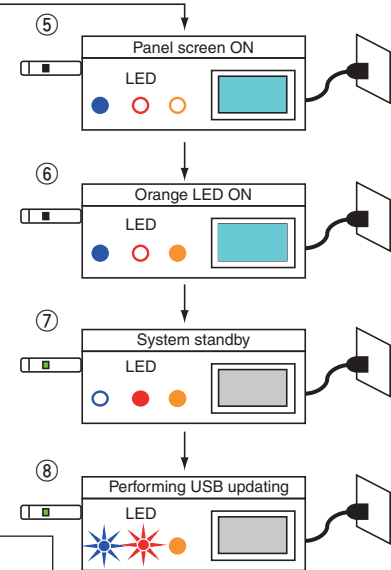
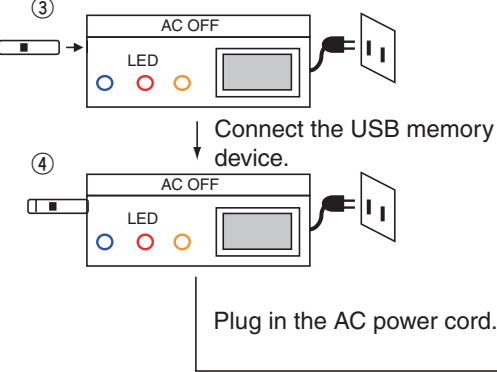
1. Setting before USB updating

Change the power status of the Panel from Screen ON to AC OFF.



2. Performing USB updating

Connect the USB memory device then set the unit to AC ON.



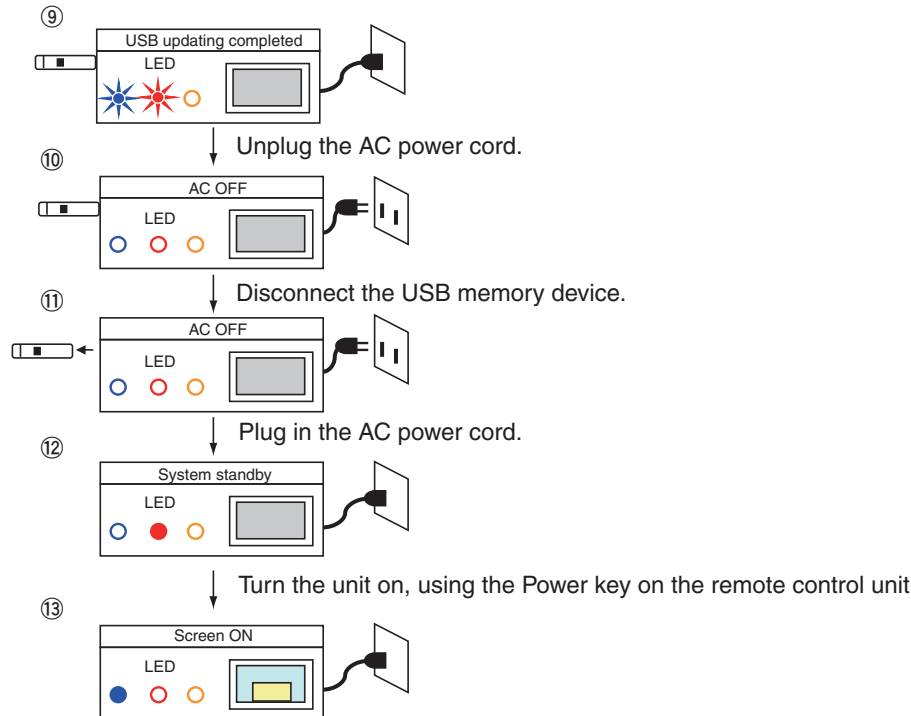
Note:
If you interrupt the updating procedure in this step, updating is not started, and normal startup will begin.

NEVER use the remote control unit.
(Especially DO NOT use the Power key.)

If you use any key on the remote control unit in Steps 5 and 7:
If the unit does not shift to Step 8, disconnect the USB memory device then try the procedures from the beginning.
If the unit shifts to Step 8, continue the updating procedures as described.

3. Completion procedures for USB updating

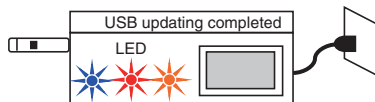
After USB updating is completed, perform the following steps (unplug the AC power cord, disconnect the USB memory device, then plug the AC power cord back in).



The GUI indicating that updating is completed is displayed.

List of frequency of LED flashing (orange) when updating fails

If updating is interrupted, the orange LED flashes to warn you of the error.



Frequency of Orange LED Flashing	Error Content	Details
1	(Not used)	
2	Version error	The same version or a newer version of software has already been loaded.
3	USB update startup error	Startup of USB updating failed.
4	DTV update error	Updating of the DTV software failed.
5	Main download error	Updating of the MAIN microcomputer software failed.
6	ARIA download error	Updating of the ASIC software in the previous stage failed.
7	ZEUS download error	Updating of the ASIC software in the later stage failed.
8	Module download error	Updating of the module microcomputer software failed.
9	IF download error	Updating of the IF microcomputer software failed.
10	USB disconnection	Abnormality in the USB memory device
11 to 13	Reserved	-
14	Destination error	The software for a different destination (Europe/North America/Australia) was used for updating.

Example: In a case where the orange LED flashes twice (version error)
Repetition of 1-sec flashing twice followed by a 2.5-sec pause (OFF)



Under the following conditions, USB updating procedures will be interrupted at Step ⑤ above, and normal startup will begin, but the LED does not flash for error indication.

Conditions under which the LED will not flash for error indication

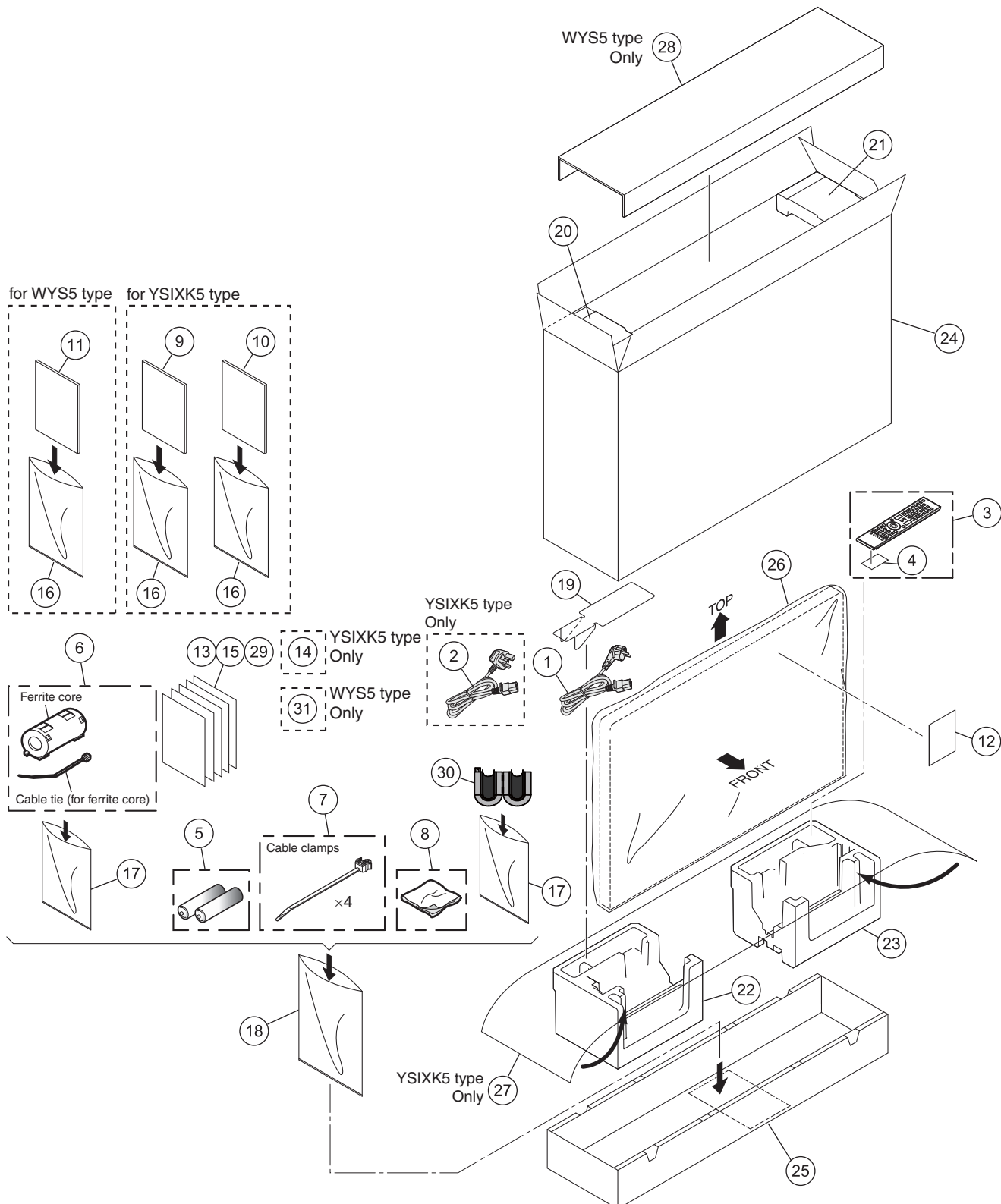
- Any USB updating file is damaged
- Not all USB updating files are stored in the USB memory device
- The USB updating files are modified
- The USB memory device is defective

6. EXPLODED VIEWS AND PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

- The \triangle mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Screws adjacent to ▼ mark on product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

6.1 PACKING SECTION



(1) PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
⚠	1	Power Cable (2 m)	ADG1214		13	Cleaning Caution	See Contrast table (2)
⚠	2	Power Cable (2 m)	See Contrast table (2)		14	Block Diagram (509)	See Contrast table (2)
	3	Remote Control Unit	AXD1563	NSP	15	Warranty Card EU	See Contrast table (2)
	4	Battery Cover (Black)	AZN2784		16	Vinyl Bag	AHG1310
NSP	5	Dry Cell Battery (R6, AA)	VEM1031		17	Vinyl Bag	AHG1337
⚠	6	Ferrite Core	ATX1039	NSP	18	Vinyl Bag	AHG1340
	7	Binder Assy	AEC2158		19	Power Cord Lid (5090)	See Contrast table (2)
	8	Cleaning Cloth	AED1285		20	Pad (509 T-L EU)	See Contrast table (2)
	9	Operating Instructions (English / French / German)	See Contrast table (2)		21	Pad (509 T-R EU)	See Contrast table (2)
					22	Pad (509 B-L EU)	See Contrast table (2)
	10	Operating Instructions (Italian / Dutch / Spanish / Russian)	See Contrast table (2)		23	Pad (509 B-R EU)	See Contrast table (2)
	11	Operating Instructions (Russian)	See Contrast table (2)		24	Upper Carton (5090H)	See Contrast table (2)
	12	Caution Card	See Contrast table (2)		25	Under Carton (5090)	See Contrast table (2)
					26	Mirror Mat	AHG1284
					27	HD Sheet	See Contrast table (2)
					28	Carton Board (509)	See Contrast table (2)
					29	Ferrite Core Info.	See Contrast table (2)
				⚠	30	Filter	CTX1089
					31	WMDRM Infomation	See Contrast table (2)

(2) CONTRAST TABLE

PDP-LX5090H/YSIXK5 and WYS5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX5090H /YSIXK5	PDP-LX5090H /WYS5
⚠	2	Power Cable (2 m)	ADG1223	Not used
	9	Operating Instructions (English / French / German)	ARE1490	Not used
	10	Operating Instructions (Italian / Dutch / Spanish / Russian)	ARC1604	Not used
	11	Operating Instructions (Russian)	Not used	ARC1617
	12	Caution Card	ARM1310	ARM1232
	13	Cleaning Caution PTK	ARM1311	Not used
	13	Cleaning Caution (11L)	Not used	ARM1283
	14	Block Diagram (509)	ARY1210	Not used
NSP	15	Warranty Card EU	ARY7112	ARY7110
	19	Power Cord Lid (5090)	AHC1113	AHC1114
	20	Pad (509 T-L EU)	AHA2714	AHA2727
	21	Pad (509 T-R EU)	AHA2715	AHA2728
	22	Pad (509 B-L EU)	AHA2716	AHA2729
	23	Pad (509 B-R EU)	AHA2726	AHA2730
	24	Upper Carton (5090H)	AHD3697	AHD3698
	25	Under Carton (5090)	AHD3672	AHD3673
	27	HD Sheet	AHG1416	Not used
	28	Carton Board (509)	Not used	AHB1303
	29	Ferrite Core Info.	ARM1396	ARM1395
	31	WMDRM Infomation	Not used	ARM1404

6.2 REAR SECTION

A

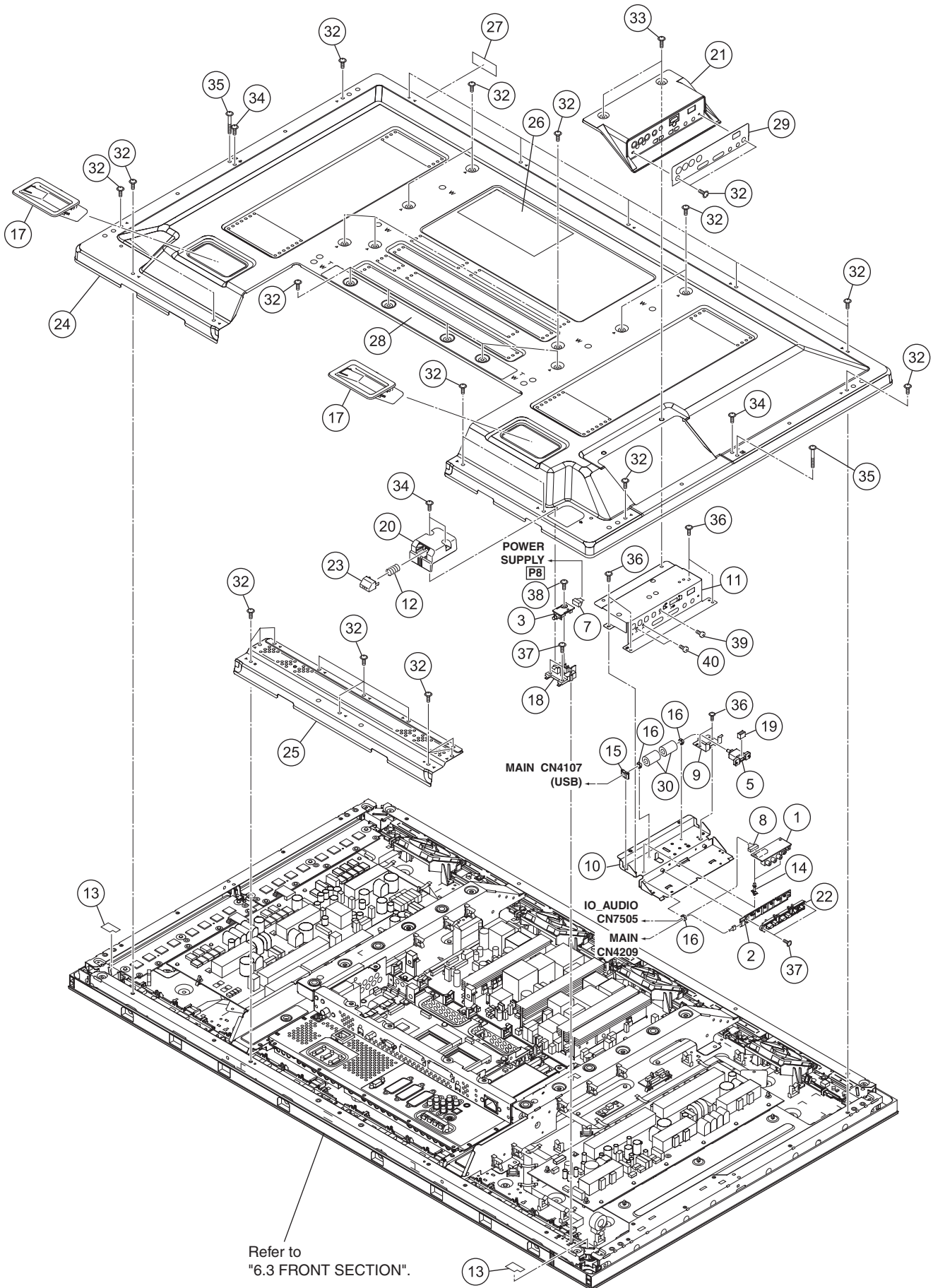
B

C

D

E

F



(1) REAR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	SIDE IO Assy	AWW1358	21	Side Input Cover	AMR3754
2	SIDE KEY Assy	AWW1361	22	Operation Button	AAC1569
3	POWER SW Assy	AWW1366	23	Power Button (508F)	AAD4152
4	•••••		24	Rear Case (509)	ANE1671
5	USB Cable (J301)(120 cm)	ADF1034	25	Under Cover (509)	ANE1672
6	•••••		NSP 26	Name Label (LX5090H)	See Contrast table (2)
7	3P Housing Wire (J103)	ADX3630	27	Serial Sheet	AAX3143
8	11P Housing Wire (J118)	ADX3644	28	Label A (EH)	AAX3569
9	USB Holder	ANG3134	29	Side Label (EU)	AAK2932
10	Side Input Base	ANG3215	⚠ 30	Ferrite Core (F14, F15)	ATX1069
11	Side Input Shield	ANG3216	31	•••••	
12	Coil Spring	ABH1125	32	Screw (M3 x 6)	ABA1377
13	Sensor Cushion B (428)	AEB1486	33	Screw (M3 x 10)	ABA1378
NSP 14	PCB Spacer	AEC1084	34	Screw (3 x 8 P)	ABA1379
15	Edge Saddle	AEC1571	35	Screw (3 x 25 P)	ABA1380
16	Mini Clamp	AEC1971	36	Screw	AMZ30P060FTB
17	Inner Grip Assy	See Contrast table (2)	37	Screw	AMZ30P080FTB
18	Power Button Support	AMR3763	38	Screw	APZ30P080FTB
⚠ 19	USB Gasket	ANK1962	39	Screw	BMZ30P080FTB
20	Power Button Case	AAK2927	40	Screw	BPZ30P080FTB

(2) CONTRAST TABLE

PDP-LX5090H/YSIXK5 and WYS5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX5090H /YSIXK5	PDP-LX5090H /WYS5
NSP	17	Inner Grip Assy	AMR3693	AMR3434
	26	Name Label (LX5090H)	AAL3032	AAL3034

1 2 3 4

6.3 FRONT SECTION

A

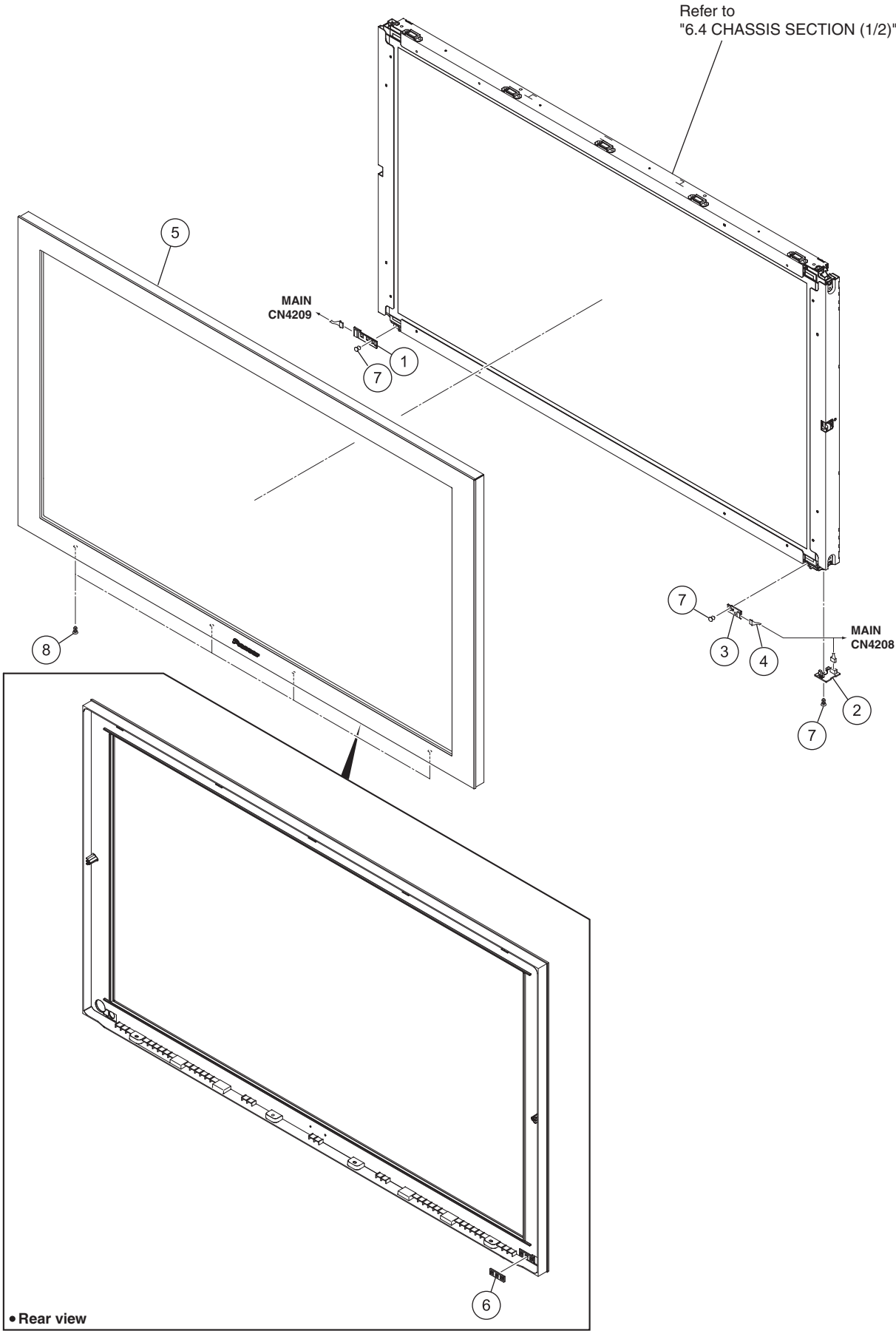
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F



FRONT SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	LED Assy	AWW1362
2	IR Assy	AWW1363
3	RLS Assy	AWW1365
4	7/3/3P Housing Wire (J117)	ADX3643
5	Front Bezel (509HTVE)	AMB3086
6	Blind Cushion (508F)	AEB1479
7	Nylon Rivet	AEC1671
8	Rivet (Plastic)	AEC1877

A

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6.4 CHASSIS SECTION (1/2)



Cleaning paper :
GED-008

Refer to
"6.7 MULTIBASE SECTION".

FAN CONNECT
CN8762

FAN CONNECT
CN8762

FAN CONNECT
CN8763

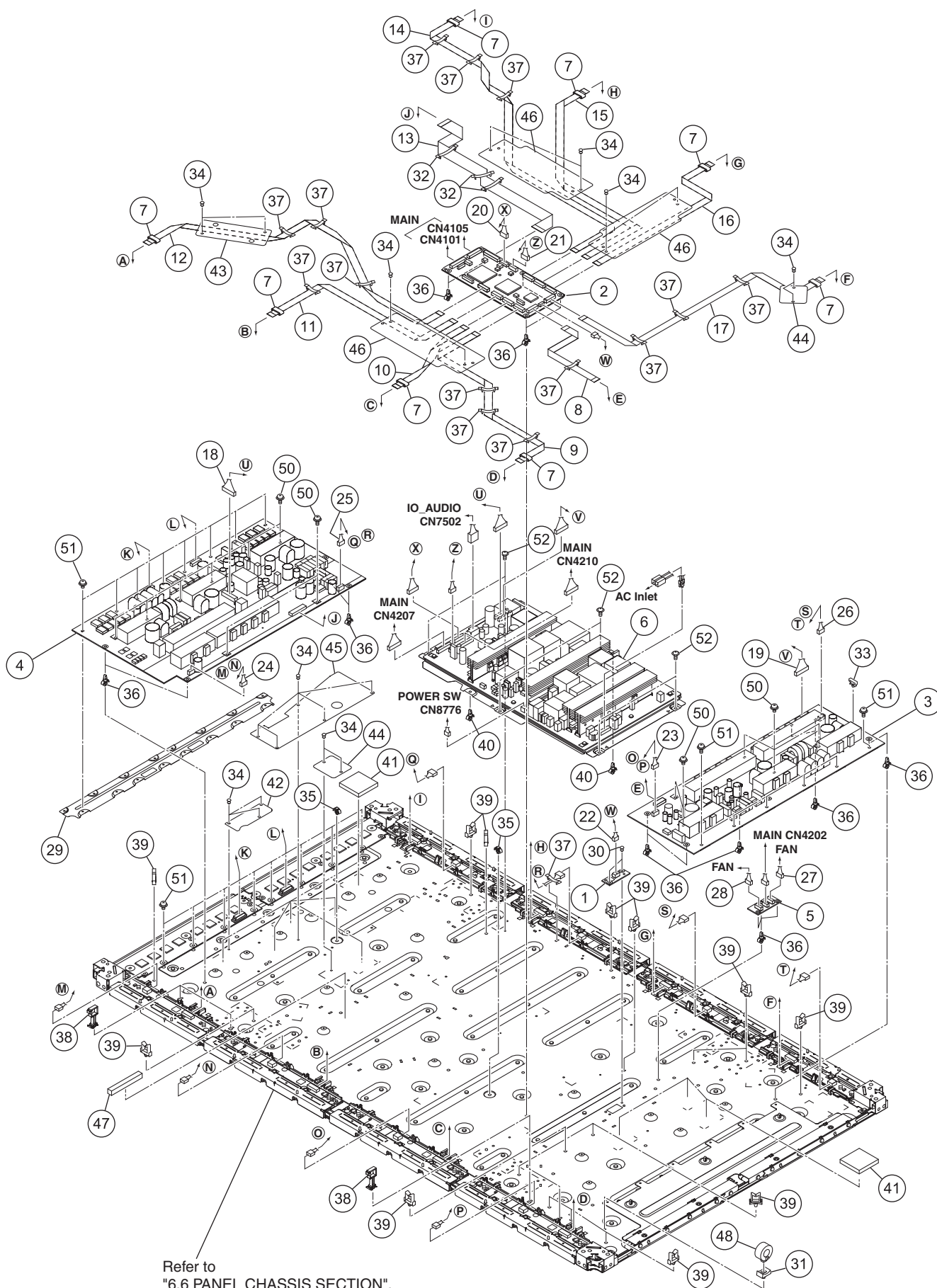
FAN CONNECT
CN8763

Refer to
"6.5 CHASSIS SECTION (2/2)".

CHASSIS SECTION (1/2) PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
⚠ 1	DC FAN Motor 80 x 15L	AXM1065
2	Sub Frame L Assy (50)	ANA2137
3	Sub Frame R Assy (50)	ANA2140
⚠ 4	F. Chassis VL Assy 50	ANA2142
⚠ 5	F. Chassis VR Assy 50	ANA2151
⚠ 6	F. Chassis HT Assy 50	ANA2144
⚠ 7	F. Chassis HB 50	ANA2188
8	Waterproof Cushion	AEB1495
9	Wire Clip	AEC1948
10	Reuse Wire Saddle	AEC2134
11	Support Bracket	AMR3762
12	FAN Bracket 80	AMR3787
⚠ 13	Gasket ADH-FCH	ANK1850
⚠ 14	Front Gasket V50	ANK1963
⚠ 15	Front Gasket H50	ANK1964
16	FC Gate Sheet	AMR3906
17	Stand Cushion	AED1340
18	Screw	ABA1351
19	Screw (M3 x 6)	ABA1377
20	Screw	ABZ30P080FTC
21	Screw	AMZ30P060FTB
22	Screw	APZ30P080FTB
23	Screw	PPZ50P100FTB
24	Screw	TBZ40P060FTC

6.5 CHASSIS SECTION (2/2)



CHASSIS SECTION (2/2) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
	1	SENSOR Assy		46	FFC Sheet	
	2	50F DIGITAL Assy	⚠	47	Gasket (10 x 10 x 80)	A
	3	50F X DRIVE Assy	⚠	48	Ferrite Core (L1)	
	4	50F Y DRIVE Assy		49	•••••	
	5	FAN CONNECT Assy		50	Screw	
⚠	6	POWER SUPPLY Unit		51	Screw	
⚠	7	Ferrite Core (F1 - F8)		52	Screw	
	8	Flexible Cable (J201)				
	9	Flexible Cable (J202)				
	10	Flexible Cable (J203)				
	11	Flexible Cable (J204)				B
	12	Flexible Cable (J205)				
	13	Flexible Cable (J206)				
	14	Flexible Cable (J207)				
	15	Flexible Cable (J208)				
	16	Flexible Cable (J209)				
	17	Flexible Cable (J210)				
	18	12P/11P Housing Wire (J101)				
	19	11P Housing Wire (J102)				
	20	10P Housing Wire (J106)				C
	21	6P Housing Wire (J107)				
	22	5P Housing Wire (J108)				
	23	5/3/3P Housing Wire (J112)				
	24	5/3/3P Housing Wire (J113)				
	25	5/3/3P Housing Wire (J114)				
	26	5/3/3P Housing Wire (J115)				
	27	6/3/3P Housing Wire (J120)				
	28	7/3/3P Housing Wire (J121)				
	29	Plate Y (509)				D
	30	Nylon Rivet				
	31	Ferrite Core Holder				
	32	Flat Clamp				
	33	Wire Clip				
	34	Nylon Rivet				
	35	Reuse Card Spacer				
	36	PCB Spacer (Reuse)				
	37	Flat Clamp				
	38	Reuse Fastener				E
	39	Reuse Wire Saddle				
	40	Reuse PCB Spacer 4.5				
	41	Drive Sheet				
	42	Y Drive Sheet B				
	43	Y Drive Sheet C				
	44	FAN Sheet				
	45	Y Drive Sheet A (M)				F

1 2 3 4

6.6 PANEL CHASSIS SECTION

A

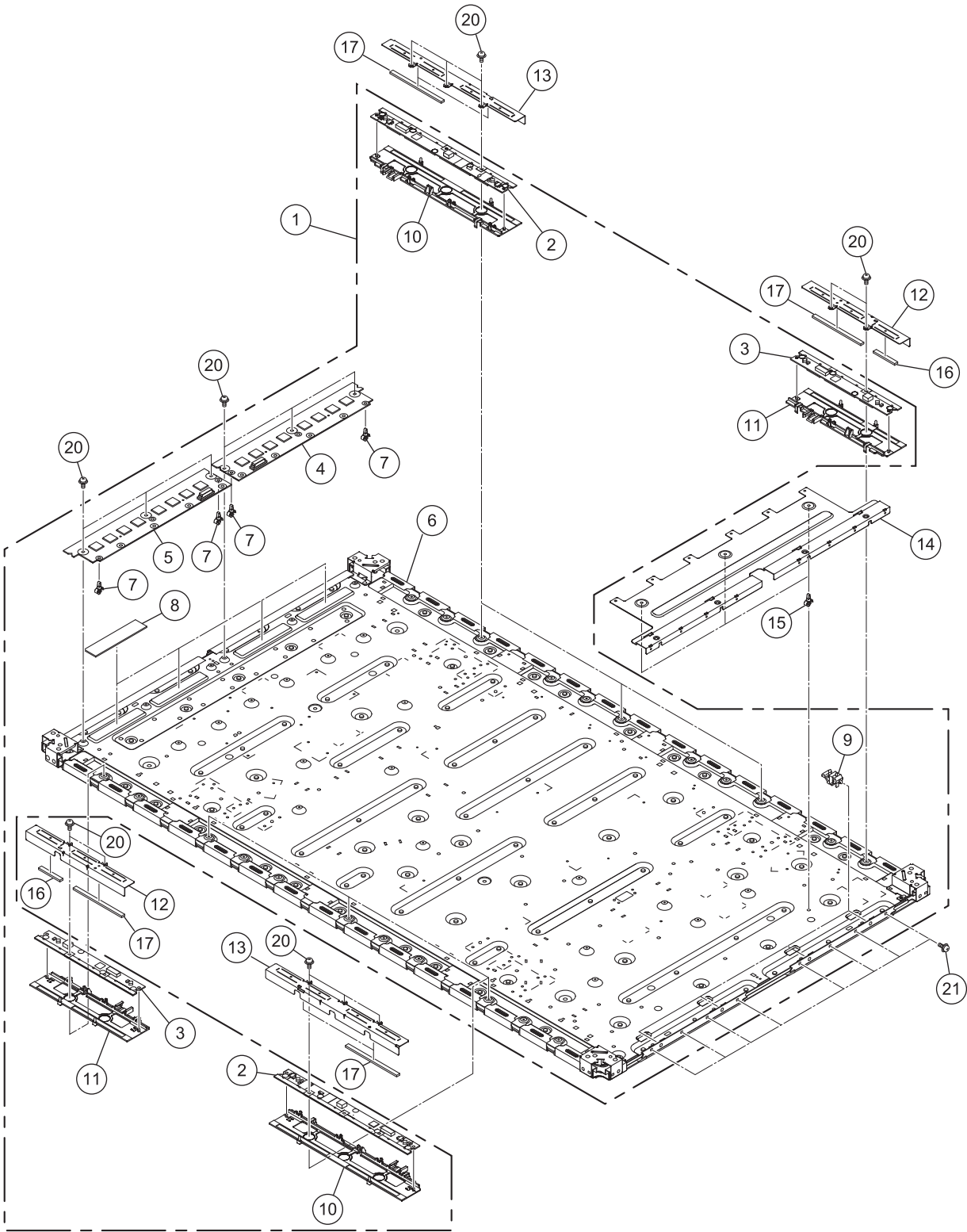
B

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F



PANEL CHASSIS SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
NSP 1	P. Chassis (509FE) Assy	AWU1297
NSP 2	50F ADDRESS L Assy	AWW1348
NSP 3	50F ADDRESS S Assy	AWW1349
NSP 4	50F SCAN A Assy	AWW1350
NSP 5	50F SCAN B Assy	AWW1351
NSP 6	P. Panel (50FE) Assy	AWU1298
7	Reuse PCB Spacer 4.5	AEC2148
8	Heat Radiation Sheet	AEH1134
9	Plate Holder	AMR3757
10	Holder L Assy (509)	AMR3775
11	Holder S Assy (509)	AMR3776
12	Address Plate S (509)	ANG3129
13	Address Plate L (509)	ANG3130
14	Plate X (509)	ANG3128
15	PCB Spacer (Reuse)	AEC2122
16	Address Silicon TS	AEH1160
17	Address Silicon TL	AEH1161
18	
19	
20	Screw	ABA1351
21	Screw	ABA1364

A

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6.7 MULTIBASE SECTION

A

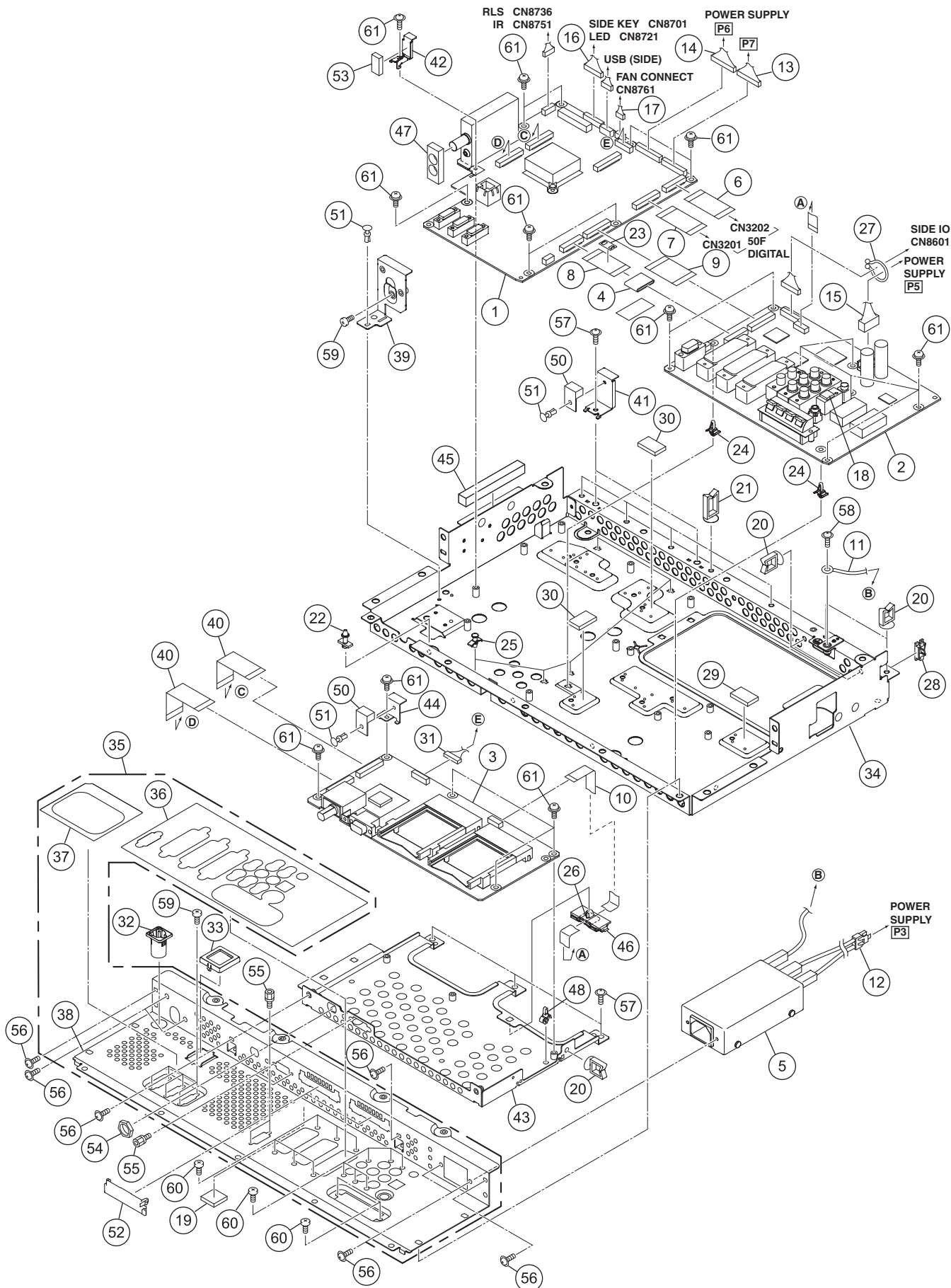
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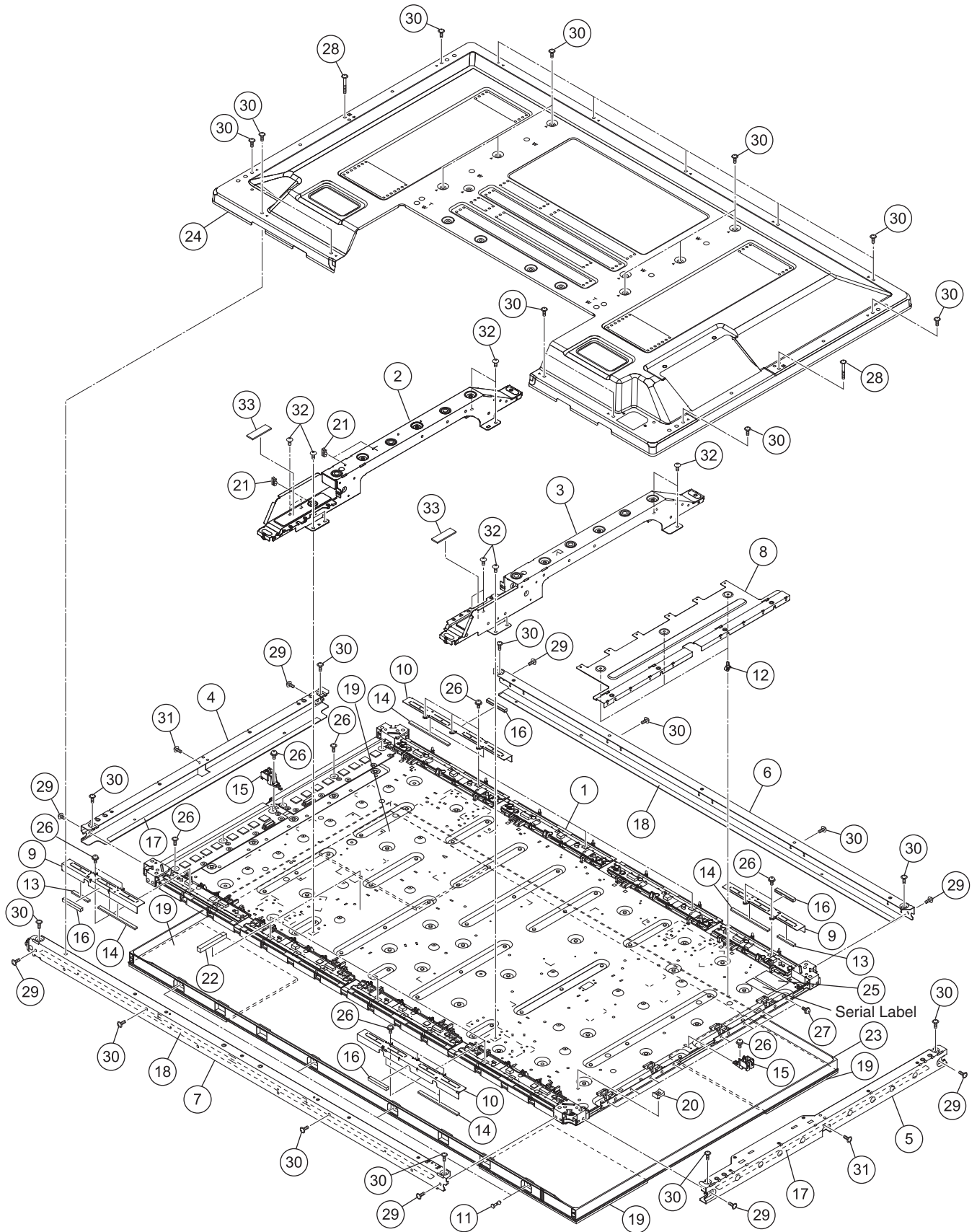
MULTIBASE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
⚠ 1	MAIN Assy	AWV2556	49	•••••		
2	IO_AUDIO Assy	AWW1354	⚠ 50	Gasket (10 x 8 x 15)	ANK1982	A
3	CARD Assy	AWV2558	51	Nylon Rivet	AEC1671	
⚠ 4	Ferrite Core (F11)	ATX1048	52	Card Lid	AMR3772	
⚠ 5	AC Inlet (CN1)	AKP1336	⚠ 53	Gasket (10 x 5 x 20)	ANK1976	
6	Flexible Cable (J211)	ADD1533	54	Washer Faced Nut	BBN1005	
7	Flexible Cable (J212)	ADD1534	55	Hexagon Headed Screw	ABA1382	
8	Flexible Cable (J213)	ADD1535	56	Screw (M3 x 6)	ABA1377	
9	Flexible Cable (J214)	ADD1536	57	Screw	AMZ30P060FTB	
10	Flexible Cable (J215)	ADD1563	58	Screw	BMP40P080FSN	
⚠ 11	Housing Wire (J105)	ADX3608	59	Screw	BMZ30P060FTB	B
⚠ 12	Housing Wire (J104)	ADX3631	60	Screw	BPZ30P080FTB	
13	14P Housing Wire (J109)	ADX3635	61	Screw	PMB30P060FNI	
14	15P Housing Wire (J110)	ADX3636				
15	5P Housing Wire (J111)	ADX3637				
16	10/6/4P Housing Wire (J116)	ADX3642				
17	4P Housing Wire (J119)	ADX3645				
18	Rubber Sheet	AEB1498				
19	Cushion	AEB1499				
20	Wire Saddle	AEC1745				C
21	Wire Saddle	AEC1797				
22	Circuit Board Spacer	AEC1872				
23	Ferrite Stopper	AEC1981				
24	Reuse PCB Spacer 4.5	AEC2136 or AEC2161				
25	PCB Spacer	AEC2146				
⚠ 26	Ferrite Core (F12)	ATX1073				
27	Clamp	AEC2156				
28	Edge Holder	AEC2159				
29	Silicon Sheet MTB A	AEH1174				D
30	Silicon Sheet MTB B	AEH1175				
31	9P Housing Wire (J124)	ADX3627				
32	Sleeve	AMR3771				
33	Ether Cover	AMR3789				
34	MTB Assy	ANA2150				
35	1..T Panel EH Assy	ANC2471				
36	2..Label B1 (ES)	AAX3573				
37	2..Label B2 (EH)	AAX3585				
38	2..Terminal Panel (EH)	ANC2466				E
39	Tuner Panel (EH)	ANG3149				
40	Flexible Cable (J216, J217)	ADD1539				
41	Earth BKT A	ANG3182				
42	Earth BKT C	ANG3184				
43	Sub Multi Chassis	ANG3148				
44	Earth BKT D	ANG3185				
⚠ 45	Gasket (10 x 10 x 80)	ANK1974				
46	Ferrite Clamp	AEC1986				
⚠ 47	Gasket (E)	ANK1981				F
48	PCB Spacer (Reuse)	AEC2122				

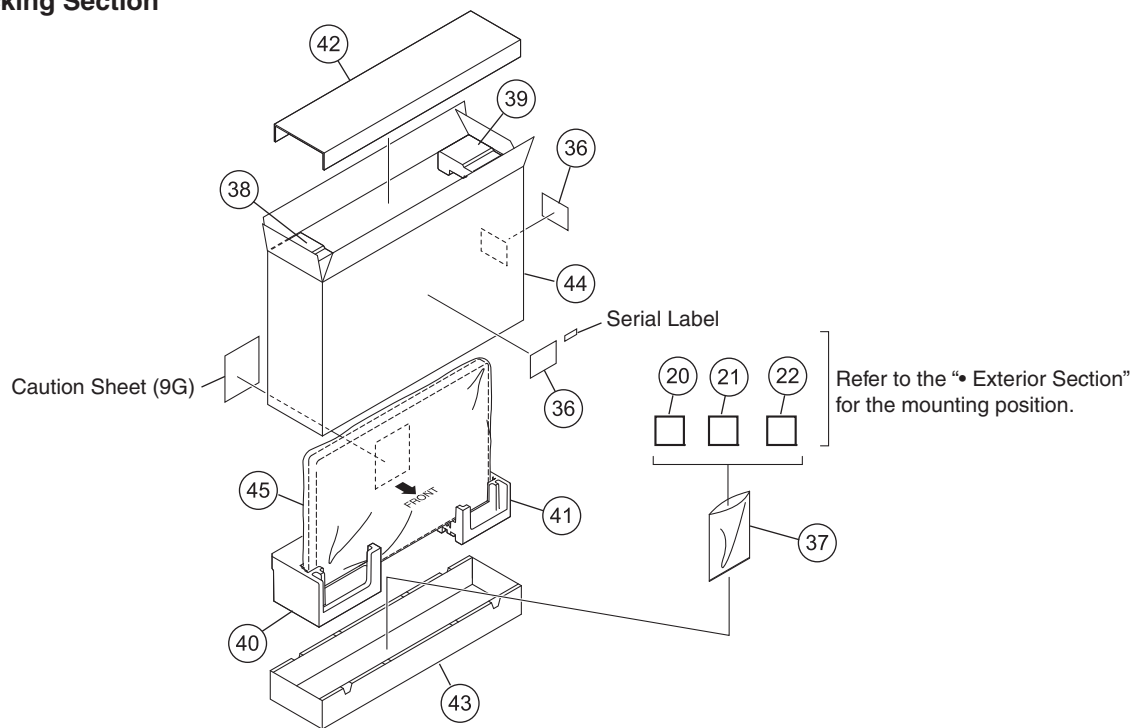
6.8 PDP SERVICE ASSY

PDP SERVICE ASSY 509FE : AWU1342

● Exterior Section



● Packing Section



PDP SERVICE ASSY PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	P. Chassis (509FE) Assy	AWU1297	26	Screw	ABA1351
2	Sub Frame L Assy (50)	ANA2137	27	Screw	ABA1364
3	Sub Frame R Assy (50)	ANA2140	28	Screw (3 x 25 P)	ABA1380
4	F. Chassis VL Assy 50	ANA2142	29	Screw	ABZ30P080FTC
5	F. Chassis VR Assy 50	ANA2151	30	Screw	AMZ30P060FTB
6	F. Chassis HT Assy 50	ANA2144	31	Screw	APZ30P080FTB
7	F. Chassis HB 50	ANA2188	32	Screw	TBZ40P060FTC
8	Plate X (509)	ANG3128	33	Stand Cushion	AED1340
9	Address Plate S (509)	ANG3129	34	•••••	
10	Address Plate L (509)	ANG3130	35	•••••	
11	Rivet (Plastic)	AEC1877	36	Caution Label	AAX3031
12	PCB Spacer (Reuse)	AEC2122	37	Vinyl Bag	AHG1338
13	Address Silicon TS	AEH1160	38	Pad (509 T-L EU)	AHA2727
14	Address Silicon TL	AEH1161	39	Pad (509 T-R EU)	AHA2728
15	Support Bracket	AMR3762	40	Pad (509 B-L EU)	AHA2729
16	Gasket ADH-FCH	ANK1850	41	Pad (509 B-R EU)	AHA2730
17	Front Gasket V50	ANK1963	42	Carton Board (509)	AHB1303
18	Front Gasket H50	ANK1964	43	Under Carton (5090)	AHD3673
19	Service Pad	AEC2105	44	Upper Carton (509F-SV)	AHD3716
20	Ferrite Core Holder	AEC1818	45	Protect Sheet	AHG1331
21	Wire Clip	AEC1948			
22	Gasket (10 x 10 x 80)	ANK1974			
NSP 23	Front Service Assy (509)	AMB3103			
24	Rear Case (509)	ANE1671			
NSP 25	Drive Voltage Label	ARW1097			

4



4



A



C



F

4

D

7.5 MAIN ASSY (5/24) [POWER_1 BLOCK]

A

B

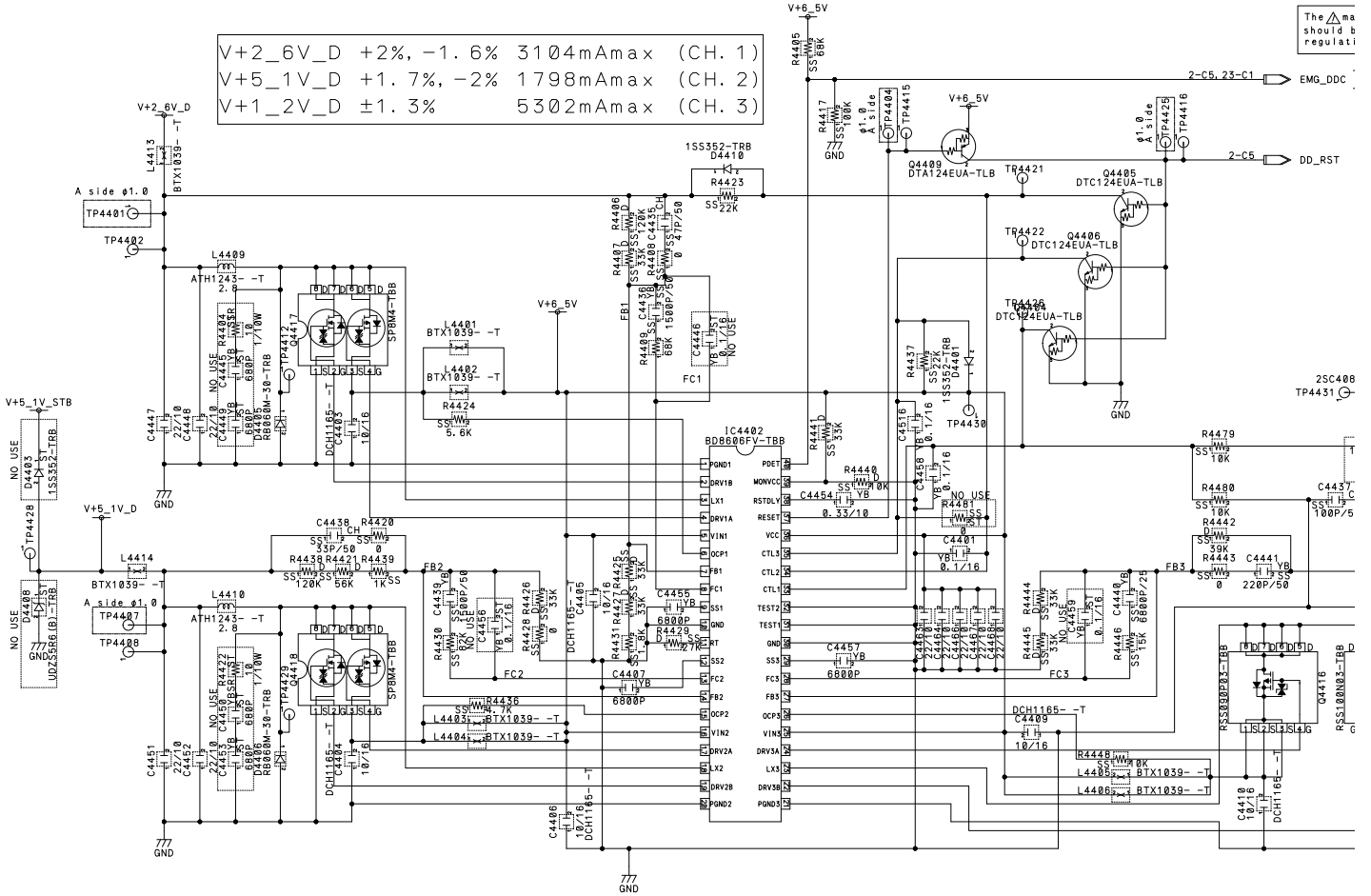
C

D

E

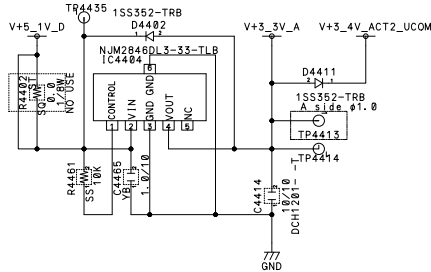
F

V+2_6V_D +2%, -1.6% 3104mAmax (CH. 1)
V+5_1V_D +1.7%, -2% 1798mAmax (CH. 2)
V+1_2V_D ±1.3% 5302mAmax (CH. 3)

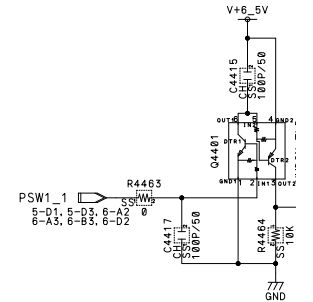


V+3 3V A ±1% 395mAmax

for ADC, VDEC

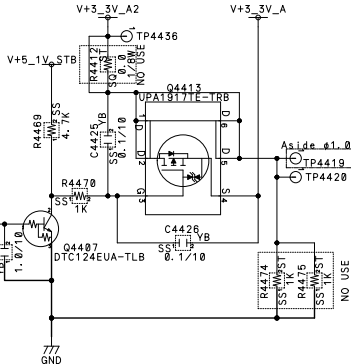


V+2 6V D2 +2% for AR

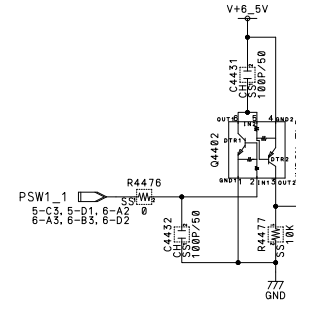


V+3 3V A2 +1%, -1.4% 209mAmax

for VDEC



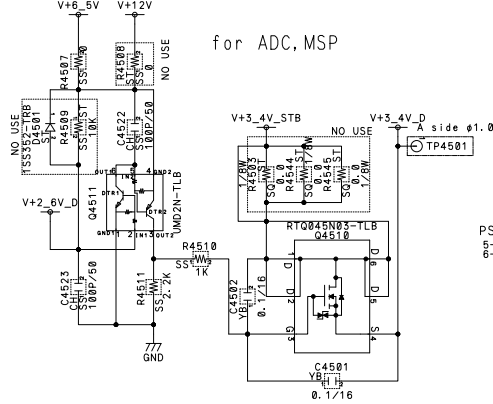
V+1 2V D2 +1% for AI



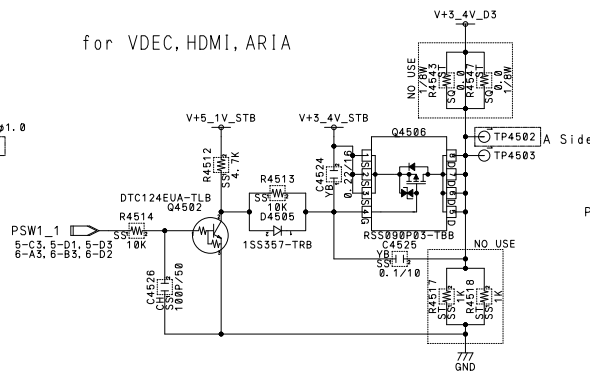
7.6 MAIN ASSY (6/24) [POWER_2 BLOCK]

A

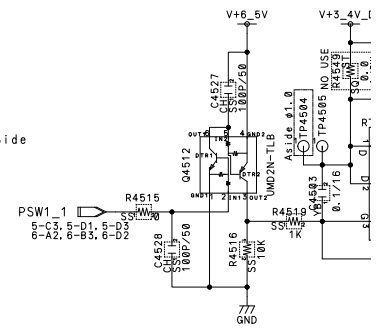
V+3 4V D +3.5%, -4.4% 2501mAmax



V+3 4V D3 +3.5%, -6.4% 959mAmax

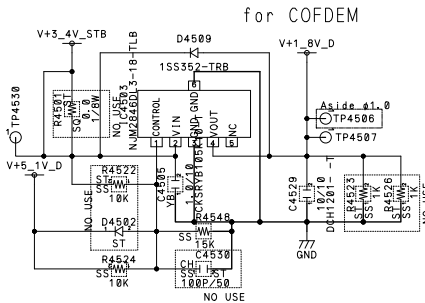


V+3 4V D4 +3.5%, -8%

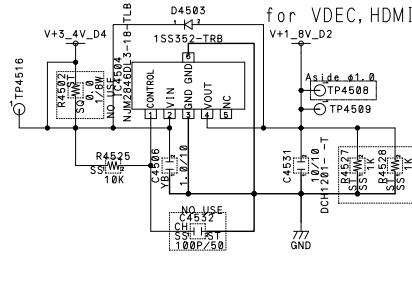


B

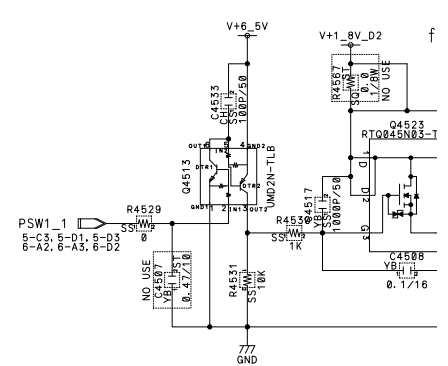
V+1 8V D ±1% 213mAmax



V+1 8V D2 ±1% 606mAmax

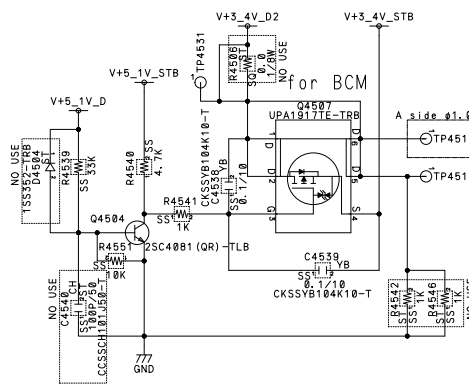


V+1 8V D3 +1%, -1.4%



C

V+3 4V D2 +3.5%, -5.9% 750mAmax

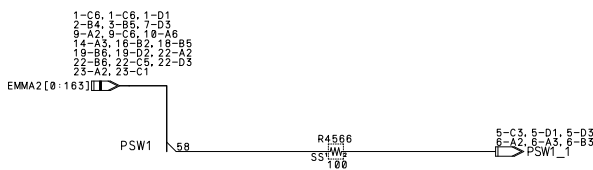


ITEM	USED	BI AWZ10	AVAN AWZ10	AUS AWZ10	AUS AWZ10
C	4501-4502 4501	4501-4502 4501	4501-4502 4501	4501-4502 4501	4501-4502 4501
D	4501-4502 4501	4501-4502 4501	4501-4502 4501	4501-4502 4501	4501-4502 4501
C	4501-4502 4501	4501-4502 4501	4501-4502 4501	4501-4502 4501	4501-4502 4501
C	4501-4502 4501	4501-4502 4501	4501-4502 4501	4501-4502 4501	4501-4502 4501
R	4501-4502 4501	4501-4502 4501	4501-4502 4501	4501-4502 4501	4501-4502 4501

D

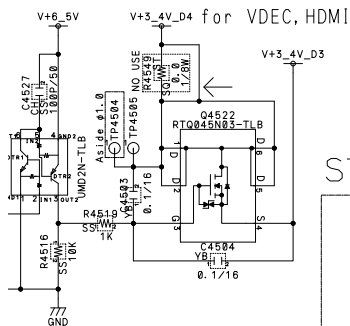
CONTROL Block

E



F

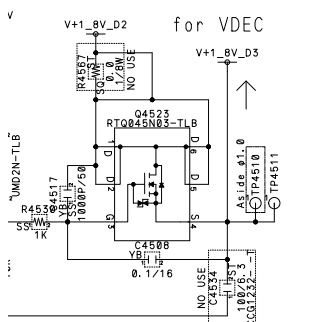
+3.5%, -8% 881mAmax



STBY SW REG

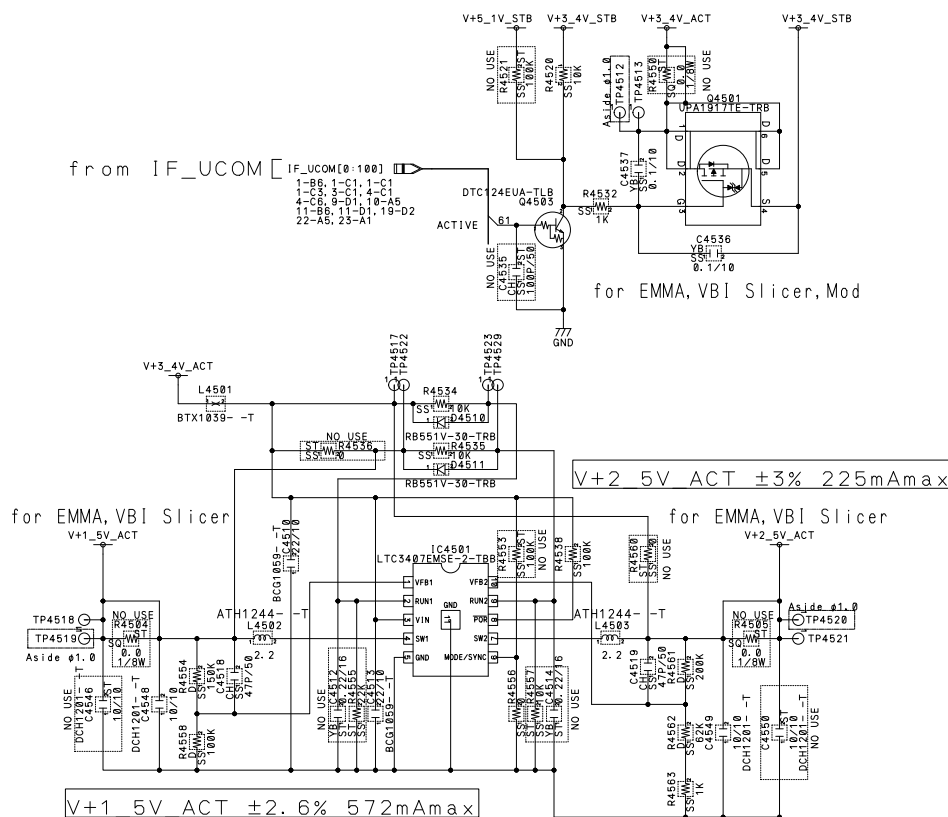
The Δ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

+1%, -1.4% 187mAmax



V+3 4V ACT +3.5%/-4.5% 614mAmax

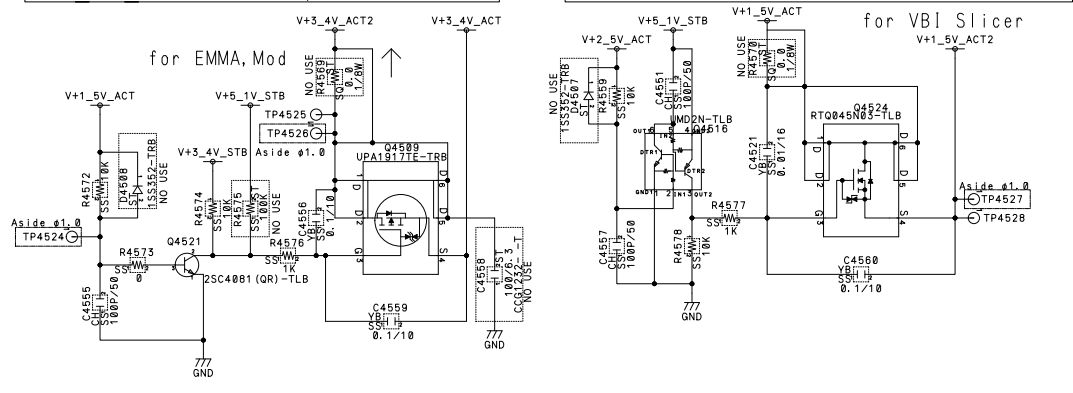
from IF_UCOM [IF_UCOM[0:100]
1-BB, 1-C1, 1-C1
4-CB, 9-D1, 1-A5
11-BB, 11-D1, 19-D2
22-A5, 23-A1



V+1 5V ACT $\pm 2.6\%$ 572mAmax

V+3 4V ACT2 +3.5%, -5% 94mAmax

V+1_5V_ACT2 +2.6%, -2.7% 23mAmax

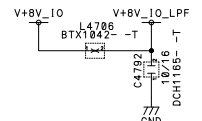
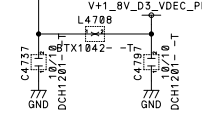
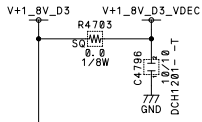
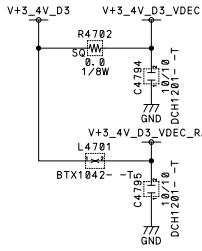
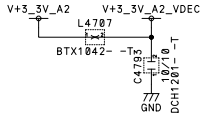


MAIN ASS'Y (EU_HD, AUS) (06/24)
POWER_2_BLOCK

AWV2556-
AWV2557-
AWV2558-

7.7 MAIN ASSY (7/24) [VDEC BLOCK]

A



B

C

D

E

F

from AV_SW

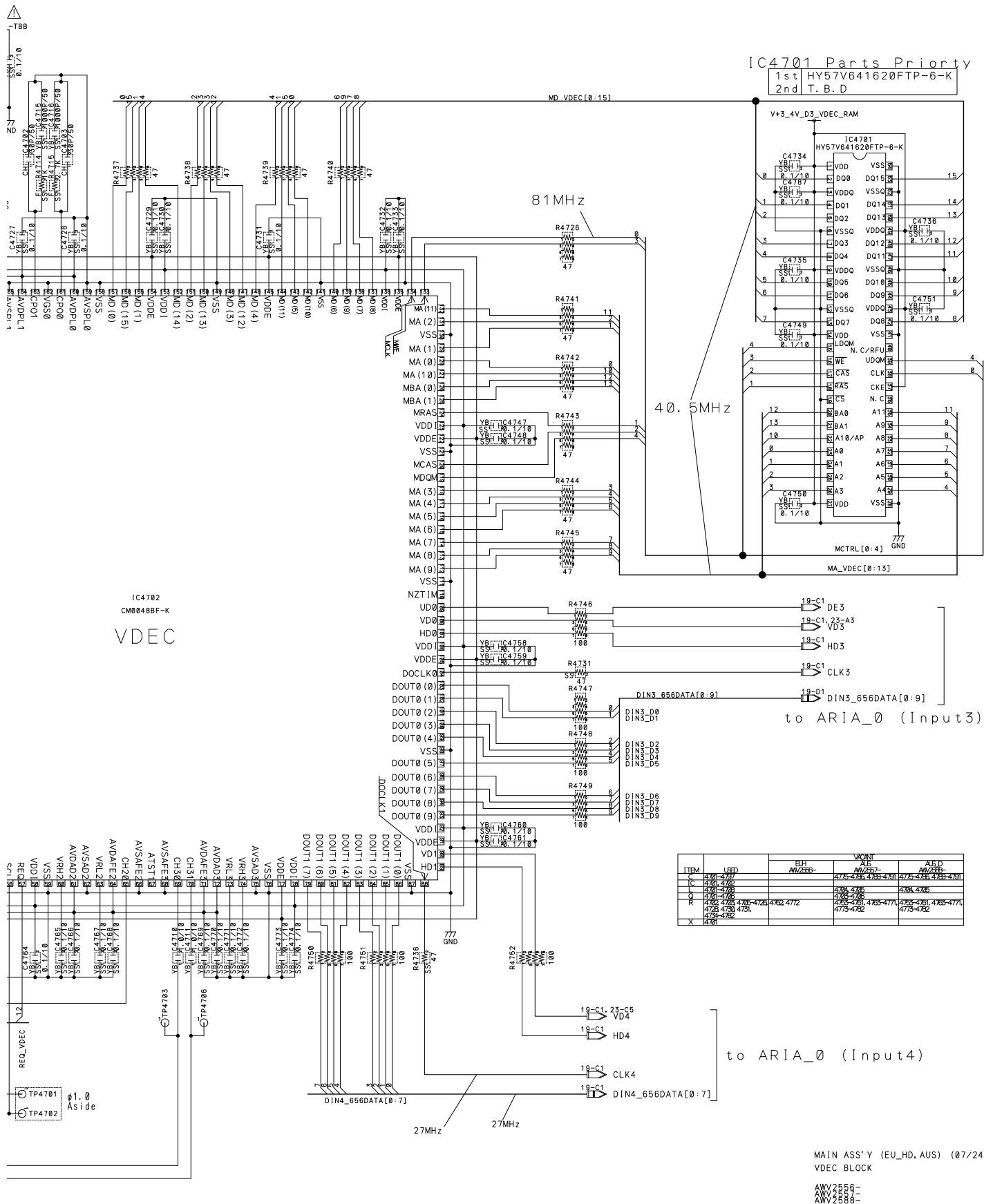
from/to RGB_SW

from AV_SW

from EMMA2

28.63636MHz

4MHz



7.8 MAIN ASSY (8/24) [ADC BLOCK]

A

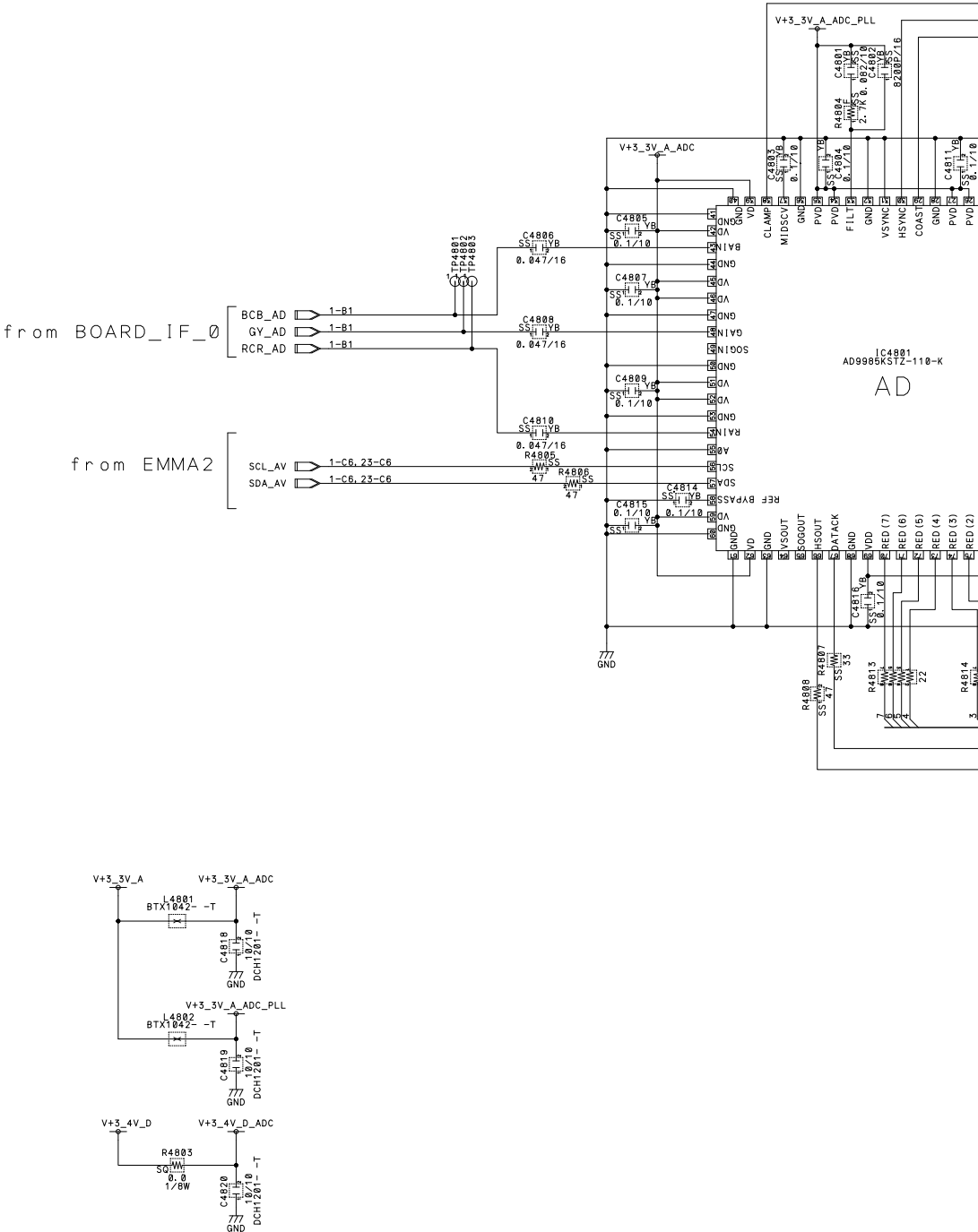
B

C

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E

F



A

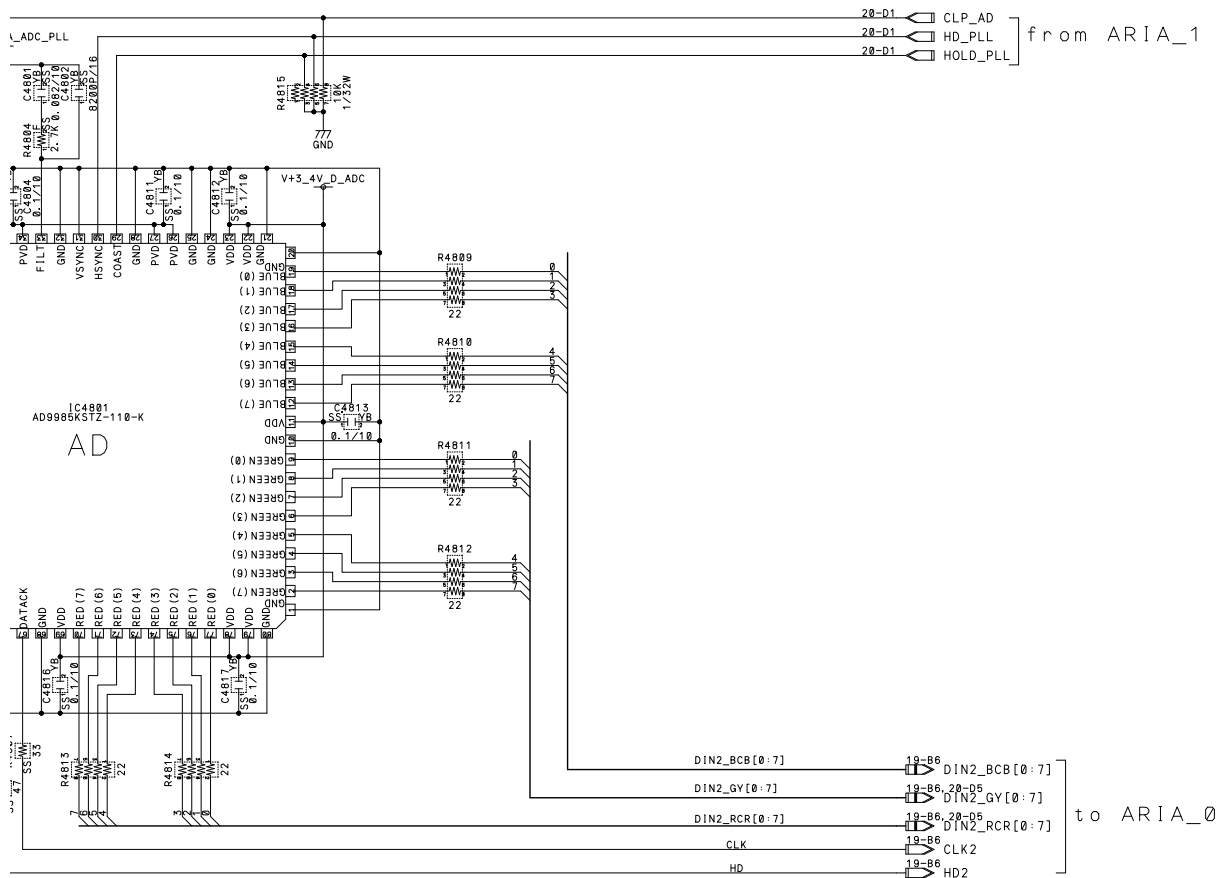
B

C

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F



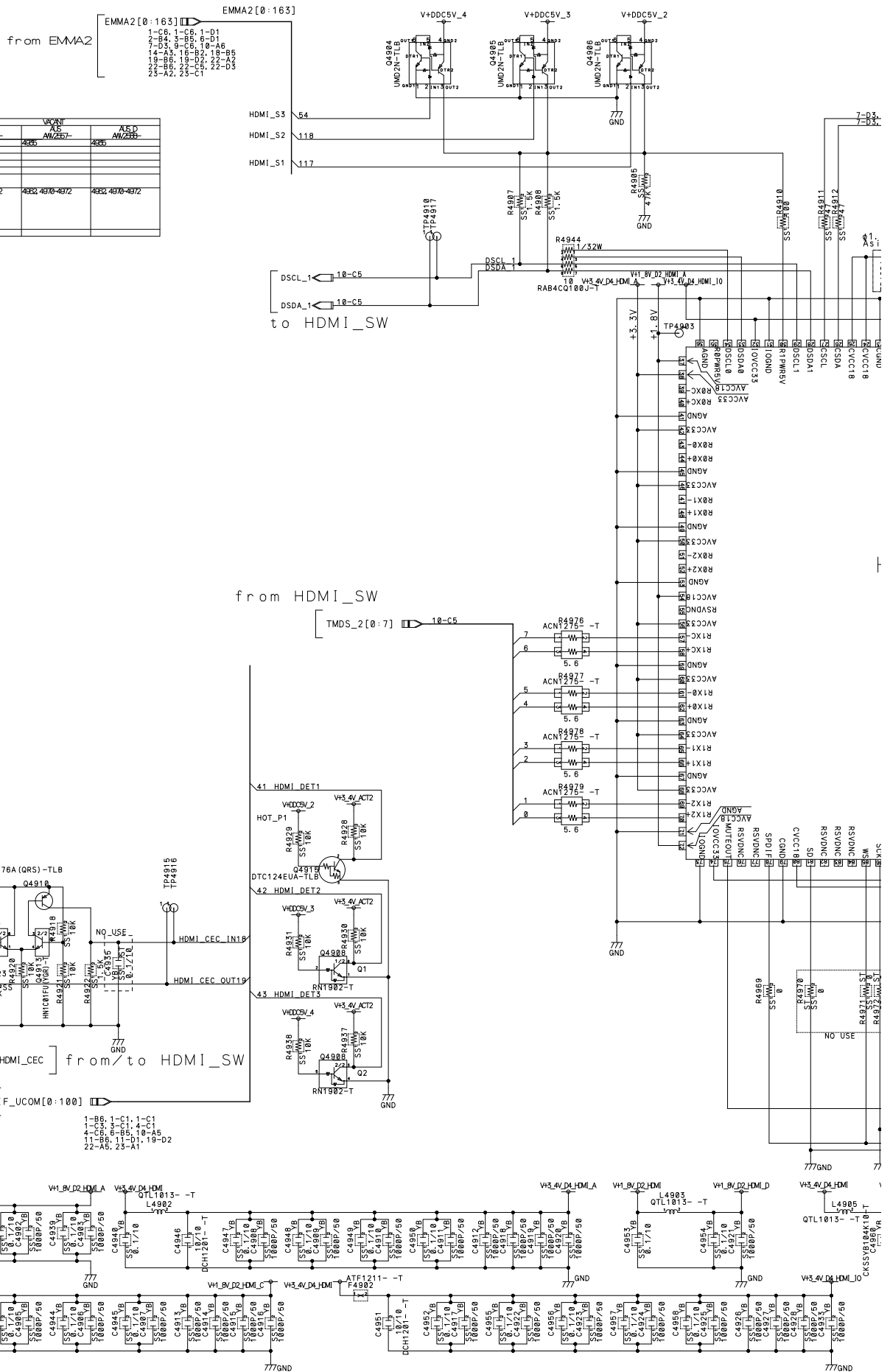
ITEM	LED	V _{AS}		
		EU	AS	ASD
C	4801	AW/256	AW/257	AW/258
R	4815	AW/256	AW/257	AW/258

MAIN ASS'Y (EU_HD, AUS) (08/24)
ADC BLOCK

AWV2556-
AWV2557-
AWV2558-

△

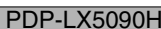
ITEM	USED	RFH AW/257--	VARIANT AW/257--	A.S.D AW/258--
C	4340-4349	4345	4355	4356
C	4350-4359			
C	4360-4369			
C	4370-4379			
R	4380-4389 4390-4399			
	4390-4399 4400-4409			
	4410-4419 4420-4429			
	4430-4439 4440-4449			
	4450-4459 4460-4469			
	4470-4479 4480-4489			
	4490-4499 4500-4509			
	4510-4519 4520-4529			
	4530-4539 4540-4549			
	4550-4559 4560-4569			
	4570-4579 4580-4589			
	4590-4599 4600-4609			
	4610-4619 4620-4629			
	4630-4639 4640-4649			
	4650-4659 4660-4669			
	4670-4679 4680-4689			
	4690-4699 4700-4709			
X	4710-4719			





△

[illegible]

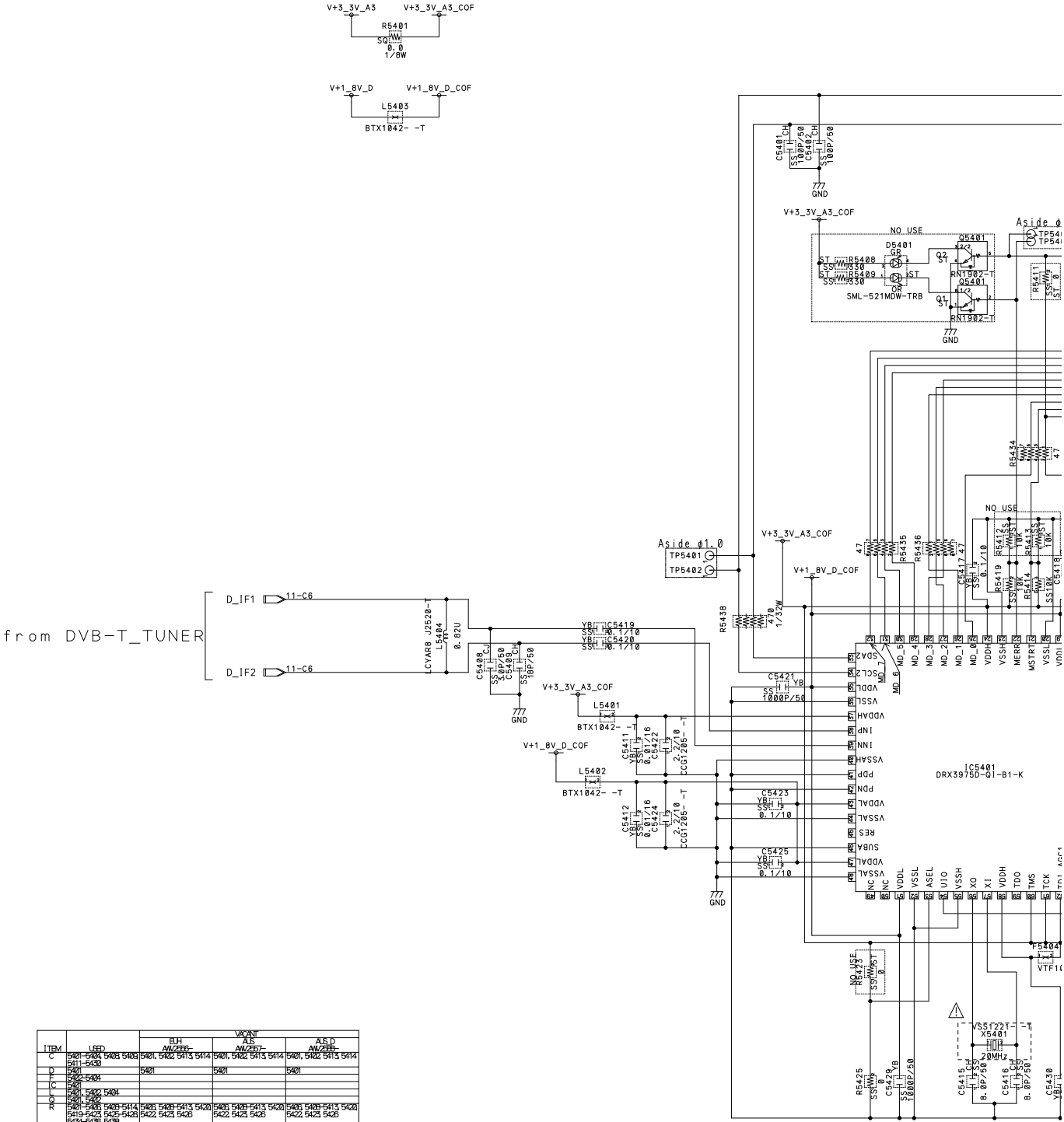


△



7.12 MAIN ASSY (12/24) [COFDM BLOCK]

ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
C	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	5422	5423	5424	5425	5426	5427	5428	5429	5430	5431	5432	5433	5434	5435	5436	5437	5438	5439	5440	5441	5442	5443	5444	5445	5446	5447	5448	5449	5450	5451	5452	5453	5454	5455	5456	5457	5458	5459	5460	5461	5462	5463	5464	5465	5466	5467	5468	5469	5470	5471	5472	5473	5474	5475	5476	5477	5478	5479	5480	5481	5482	5483	5484	5485	5486	5487	5488	5489	5490	5491	5492	5493	5494	5495	5496	5497	5498	5499	5500
D	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	5422	5423	5424	5425	5426	5427	5428	5429	5430	5431	5432	5433	5434	5435	5436	5437	5438	5439	5440	5441	5442	5443	5444	5445	5446	5447	5448	5449	5450	5451	5452	5453	5454	5455	5456	5457	5458	5459	5460	5461	5462	5463	5464	5465	5466	5467	5468	5469	5470	5471	5472	5473	5474	5475	5476	5477	5478	5479	5480	5481	5482	5483	5484	5485	5486	5487	5488	5489	5490	5491	5492	5493	5494	5495	5496	5497	5498	5499	5500
E	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	5422	5423	5424	5425	5426	5427	5428	5429	5430	5431	5432	5433	5434	5435	5436	5437	5438	5439	5440	5441	5442	5443	5444	5445	5446	5447	5448	5449	5450	5451	5452	5453	5454	5455	5456	5457	5458	5459	5460	5461	5462	5463	5464	5465	5466	5467	5468	5469	5470	5471	5472	5473	5474	5475	5476	5477	5478	5479	5480	5481	5482	5483	5484	5485	5486	5487	5488	5489	5490	5491	5492	5493	5494	5495	5496	5497	5498	5499	5500
F	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	5422	5423	5424	5425	5426	5427	5428	5429	5430	5431	5432	5433	5434	5435	5436	5437	5438	5439	5440	5441	5442	5443	5444	5445	5446	5447	5448	5449	5450	5451	5452	5453	5454	5455	5456	5457	5458	5459	5460	5461	5462	5463	5464	5465	5466	5467	5468	5469	5470	5471	5472	5473	5474	5475	5476	5477	5478	5479	5480	5481	5482	5483	5484	5485	5486	5487	5488	5489	5490	5491	5492	5493	5494	5495	5496	5497	5498	5499	5500



1 2 3 4

7.13 MAIN ASSY (13/24) [COMMON_IF BLOCK]

A

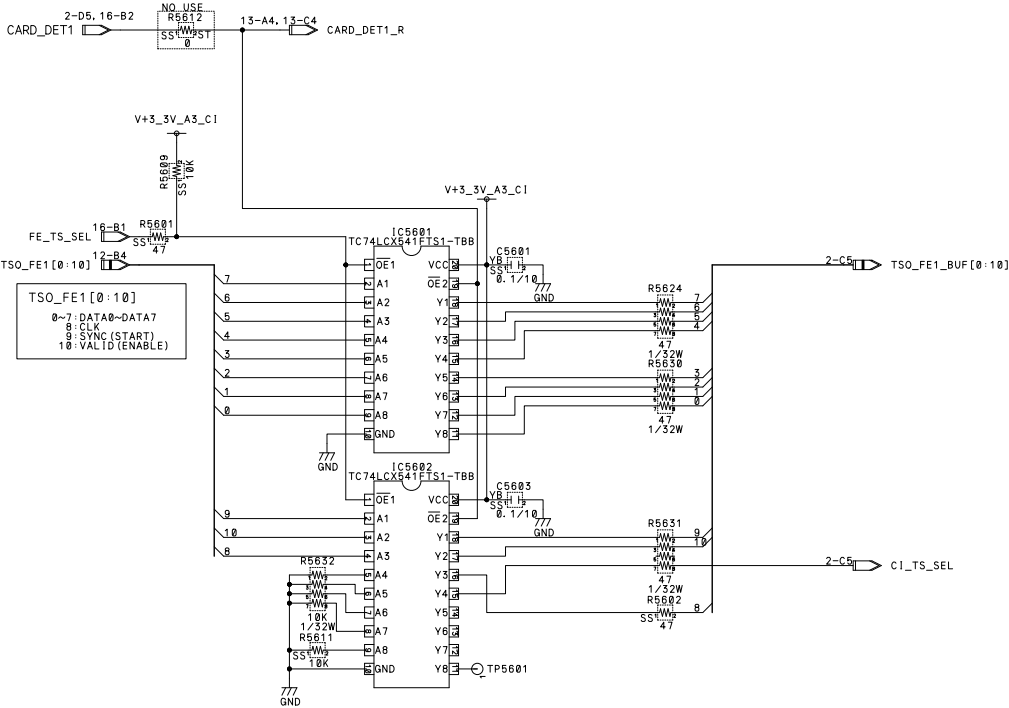
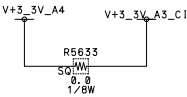
B

C

D

E

F

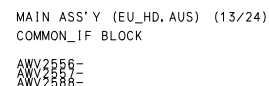


13
CARD_D
2-
7404_EI_CS
2-
7404_E
2-
7404_EB
2-
7404_E
27M_C

ITEM	USED	REF AW/257-	VACANT AS AW/257-	AS/D AW/257-
C	5501-5505 5505	5504	5504	5504
IC	5501-5505 5504-5505			
R	5501-5502 5504-5505 5505	5512 5504	5512 5504	5512 5504

C1_
C1_

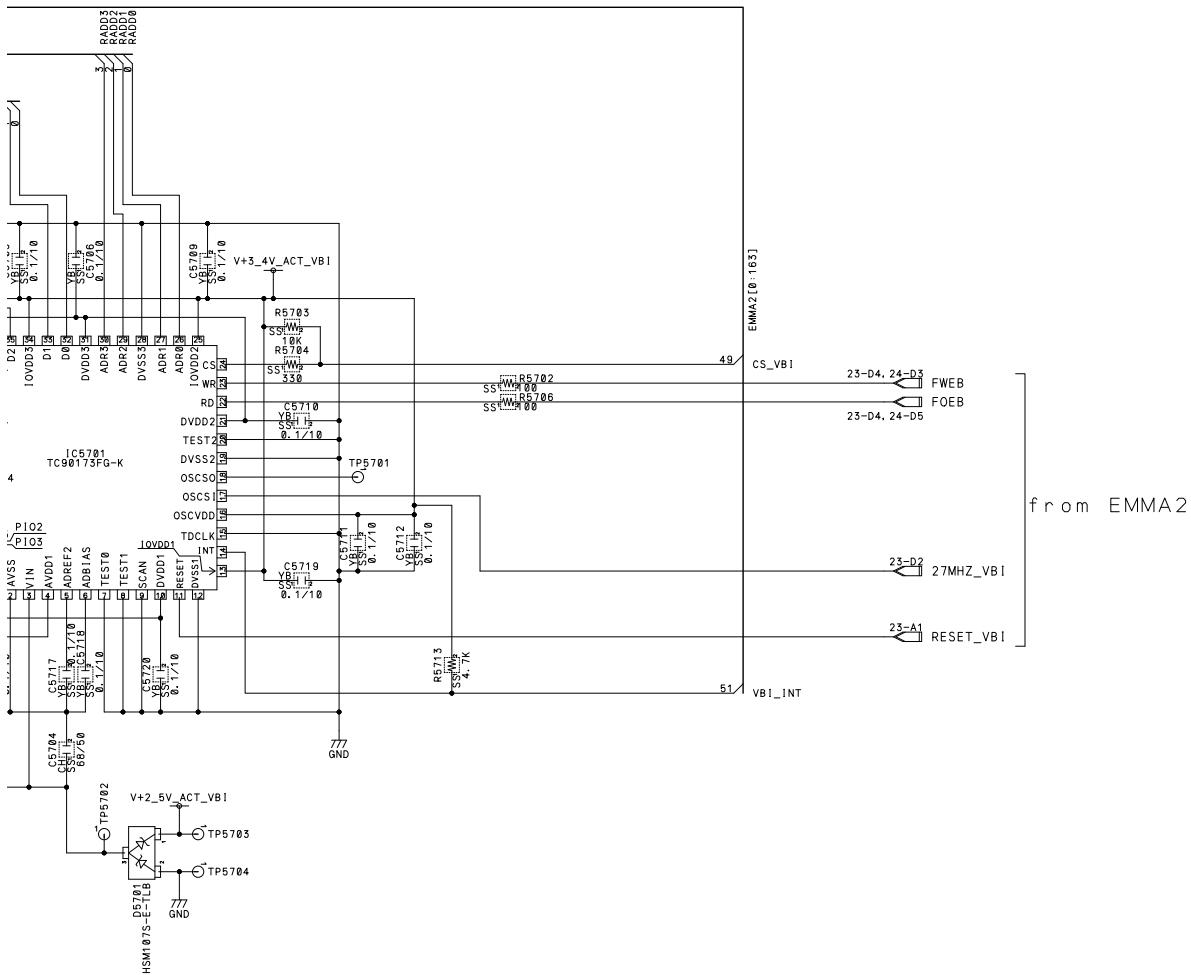
F



4

F





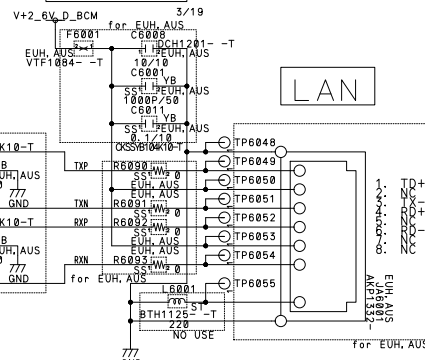
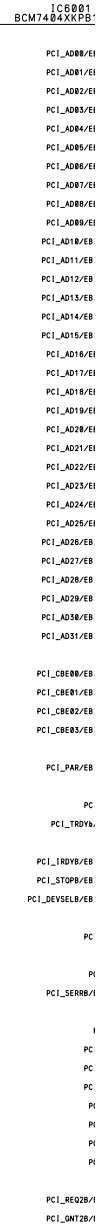
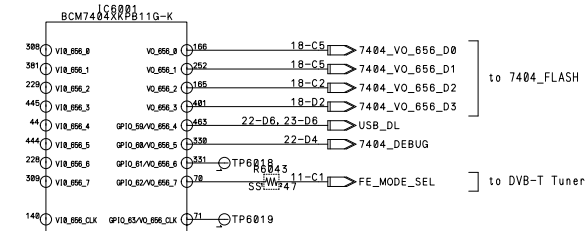
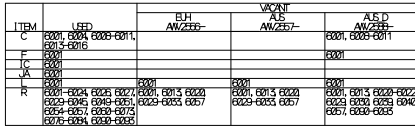
ITEM	REF	EU AV256-	VBI AV257-	ALD AV258-
C	5701, 5702, 5703, 5704, 5705, 5706, 5707, 5708, 5709, 5710, 5711, 5712, 5713, 5714, 5715, 5716, 5717, 5718, 5719, 5720, 5721, 5722, 5723, 5724, 5725, 5726, 5727, 5728, 5729, 5730, 5731, 5732, 5733, 5734, 5735, 5736, 5737, 5738, 5739, 5740, 5741, 5742, 5743, 5744, 5745, 5746, 5747, 5748, 5749, 5750, 5751, 5752, 5753, 5754, 5755, 5756, 5757, 5758, 5759, 5760, 5761, 5762, 5763, 5764, 5765, 5766, 5767, 5768, 5769, 5770, 5771, 5772, 5773, 5774, 5775, 5776, 5777, 5778, 5779, 5780, 5781, 5782, 5783, 5784, 5785, 5786, 5787, 5788, 5789, 5790, 5791, 5792, 5793, 5794, 5795, 5796, 5797, 5798, 5799, 5800			
D	5701, 5702, 5703, 5704, 5705, 5706, 5707, 5708, 5709, 5710, 5711, 5712, 5713, 5714, 5715, 5716, 5717, 5718, 5719, 5720, 5721, 5722, 5723, 5724, 5725, 5726, 5727, 5728, 5729, 5730, 5731, 5732, 5733, 5734, 5735, 5736, 5737, 5738, 5739, 5740, 5741, 5742, 5743, 5744, 5745, 5746, 5747, 5748, 5749, 5750, 5751, 5752, 5753, 5754, 5755, 5756, 5757, 5758, 5759, 5760, 5761, 5762, 5763, 5764, 5765, 5766, 5767, 5768, 5769, 5770, 5771, 5772, 5773, 5774, 5775, 5776, 5777, 5778, 5779, 5780, 5781, 5782, 5783, 5784, 5785, 5786, 5787, 5788, 5789, 5790, 5791, 5792, 5793, 5794, 5795, 5796, 5797, 5798, 5799, 5800			
C	5701, 5702, 5703, 5704, 5705, 5706, 5707, 5708, 5709, 5710, 5711, 5712, 5713, 5714, 5715, 5716, 5717, 5718, 5719, 5720, 5721, 5722, 5723, 5724, 5725, 5726, 5727, 5728, 5729, 5730, 5731, 5732, 5733, 5734, 5735, 5736, 5737, 5738, 5739, 5740, 5741, 5742, 5743, 5744, 5745, 5746, 5747, 5748, 5749, 5750, 5751, 5752, 5753, 5754, 5755, 5756, 5757, 5758, 5759, 5760, 5761, 5762, 5763, 5764, 5765, 5766, 5767, 5768, 5769, 5770, 5771, 5772, 5773, 5774, 5775, 5776, 5777, 5778, 5779, 5780, 5781, 5782, 5783, 5784, 5785, 5786, 5787, 5788, 5789, 5790, 5791, 5792, 5793, 5794, 5795, 5796, 5797, 5798, 5799, 5800			
R	5701, 5702, 5703, 5704, 5705, 5706, 5707, 5708, 5709, 5710, 5711, 5712, 5713, 5714, 5715, 5716, 5717, 5718, 5719, 5720, 5721, 5722, 5723, 5724, 5725, 5726, 5727, 5728, 5729, 5730, 5731, 5732, 5733, 5734, 5735, 5736, 5737, 5738, 5739, 5740, 5741, 5742, 5743, 5744, 5745, 5746, 5747, 5748, 5749, 5750, 5751, 5752, 5753, 5754, 5755, 5756, 5757, 5758, 5759, 5760, 5761, 5762, 5763, 5764, 5765, 5766, 5767, 5768, 5769, 5770, 5771, 5772, 5773, 5774, 5775, 5776, 5777, 5778, 5779, 5780, 5781, 5782, 5783, 5784, 5785, 5786, 5787, 5788, 5789, 5790, 5791, 5792, 5793, 5794, 5795, 5796, 5797, 5798, 5799, 5800			

MAIN ASS'Y (EU_HD, AUS) (14/24)
VBI_SLICER BLOCK

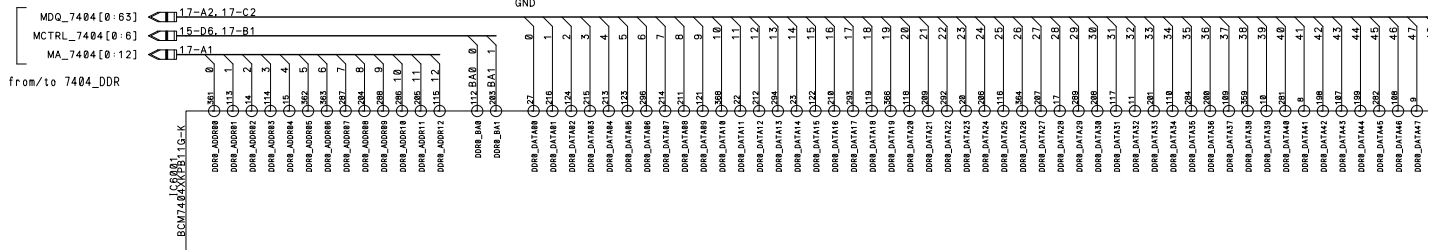
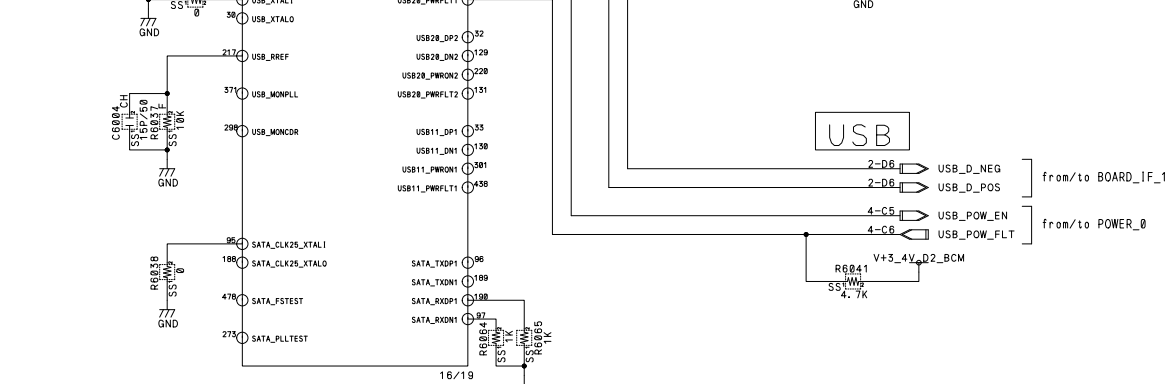
AWV2556-
AWV2557-
AWV2558-

△

C



USB





F

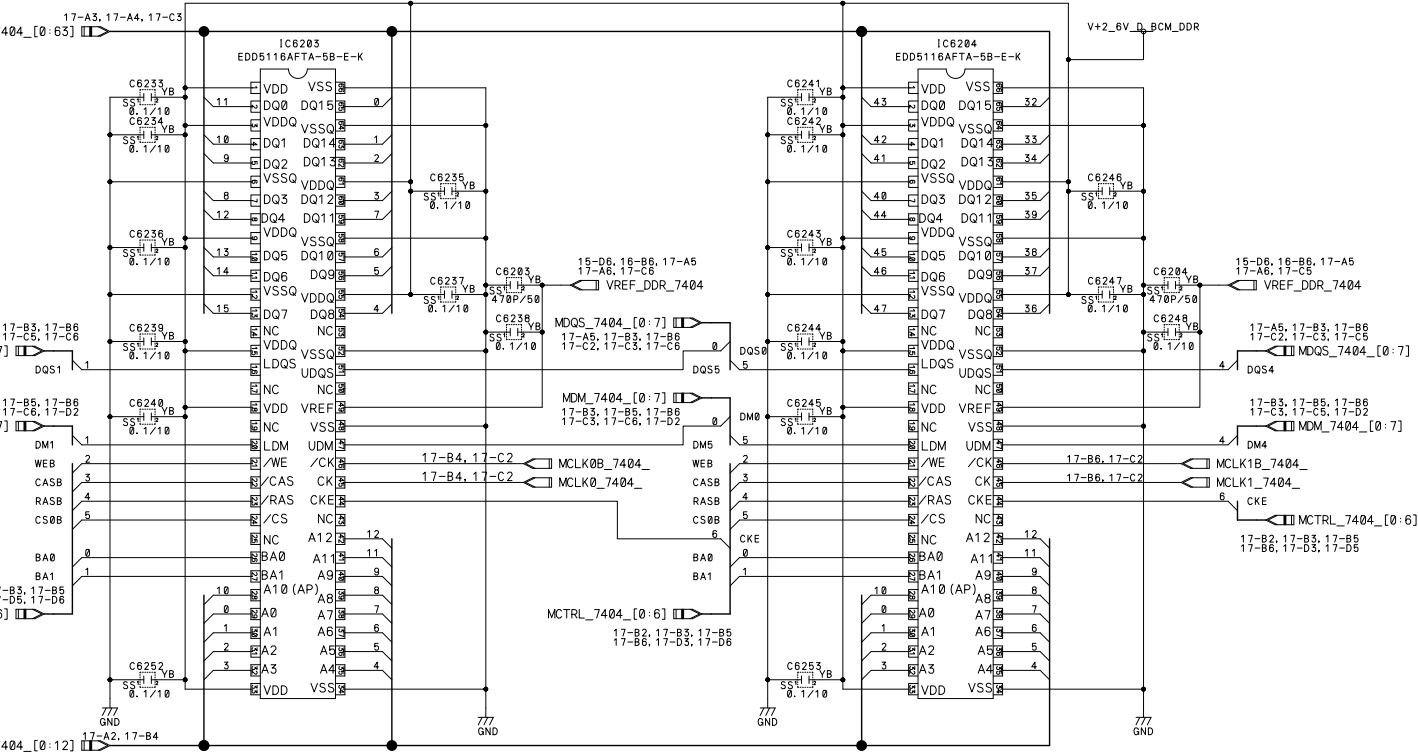
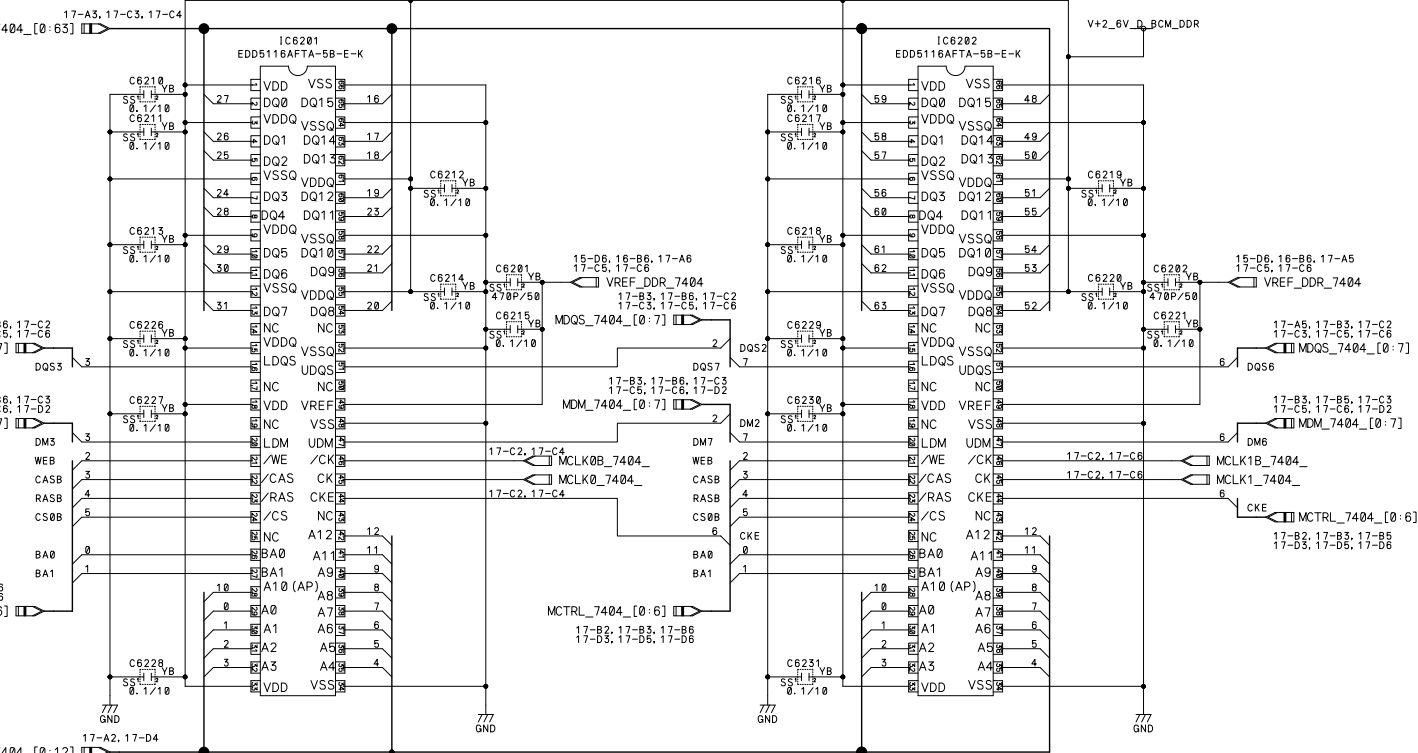
△



4

Priority

7404 DDR
512Mbit x 4pcs



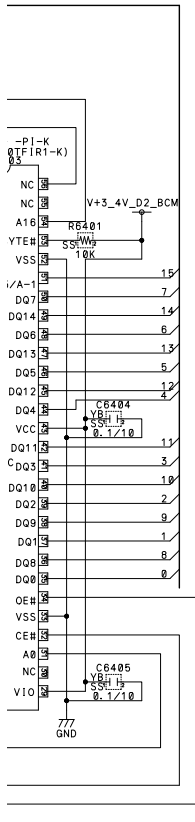
ITEM	USED	VDDT		VDD	
		BH	AW200	BH	AW200
C	200	200	200	200	200
R	200	200	200	200	200

MAIN ASS'Y (EU_HD, AUS) (017/24)
7404_DDR BLOCK

AWV2556-
AWV2557-
AWV2588-

4

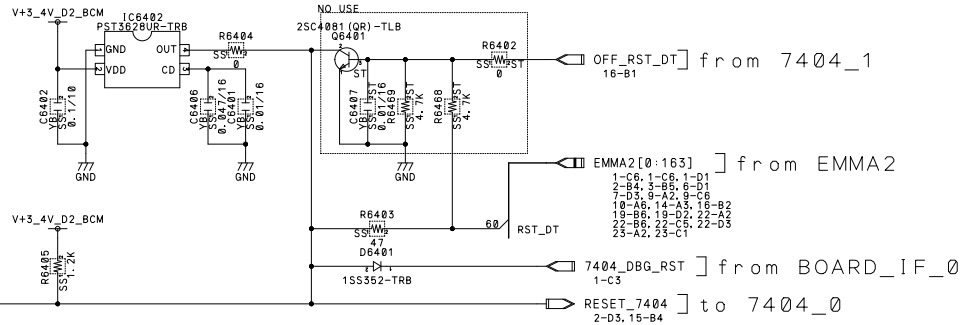
FLASH



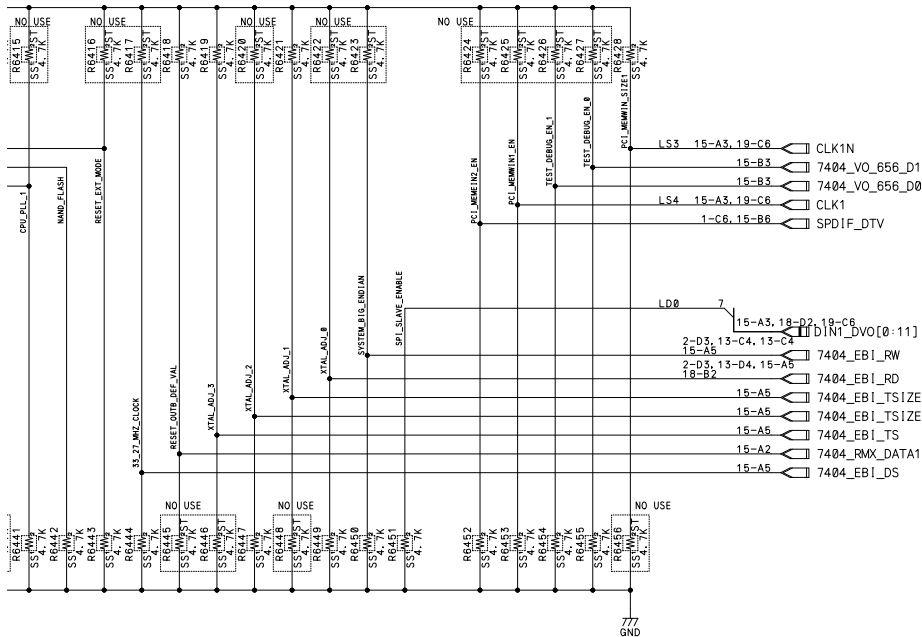
IC6403

EUH	AGC1083- -PI-K	S29GL512P10TFIR1-K
AUS	AGC1084- -PI-K	S29GL256N90TFIR1-K

Reset IC



Strap for 7404

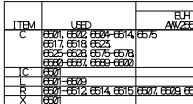


MAIN ASS'Y (EU_HD, AUS) (18/24)
7404_FLASH BLOCK

AWV2556-
AWV2557-
AWV2588-

△

F



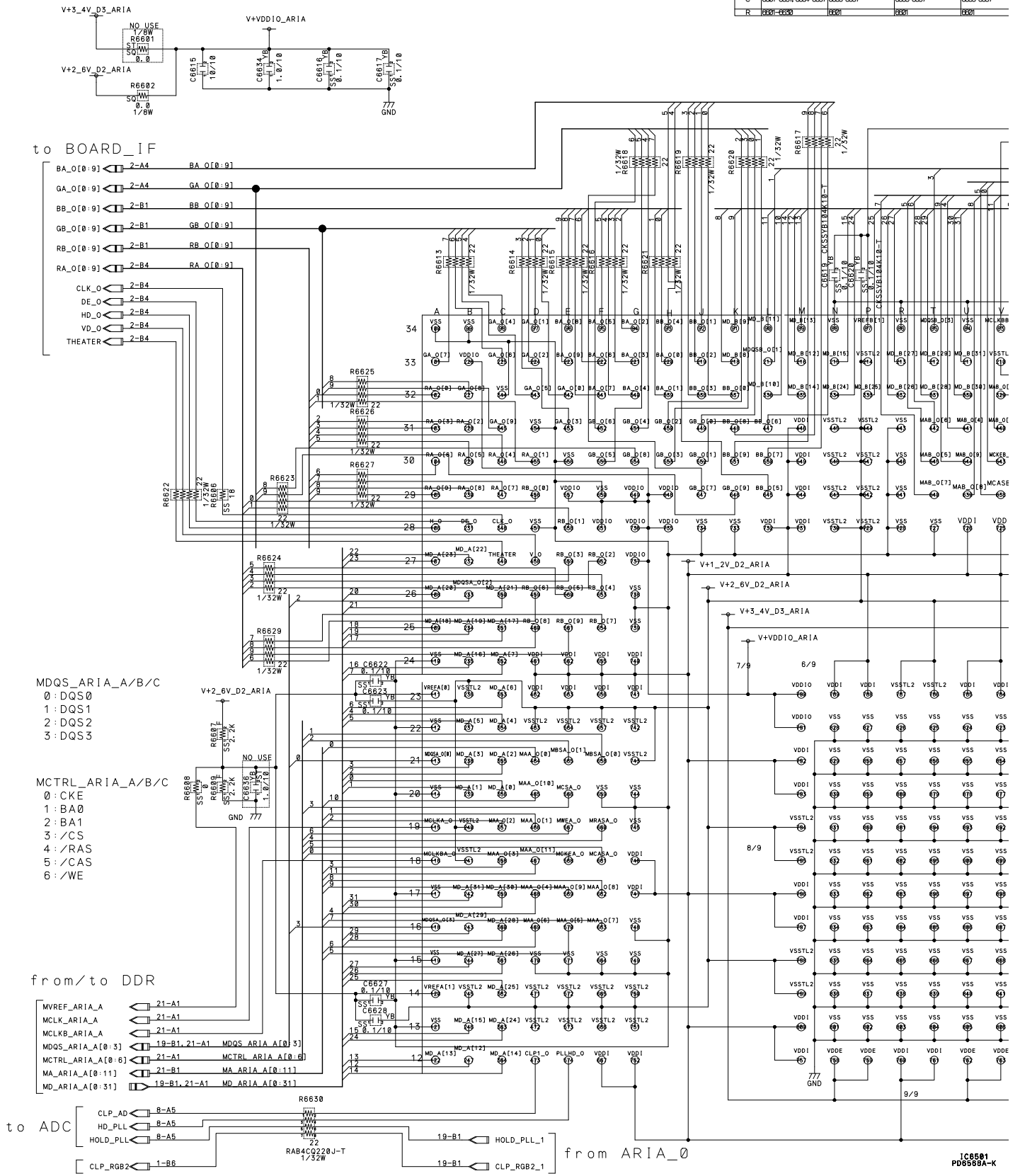
A

F

F

△

F





F

7.21 MAIN ASSY (21/24) [ARIA_MEMORY BLOCK]

A

Aria DDR

IC6702-IC6704
1st EDD1232ABBH-5C
2nd T. B. D

DDR_A

DDR_

from/to Aria

from/to Aria

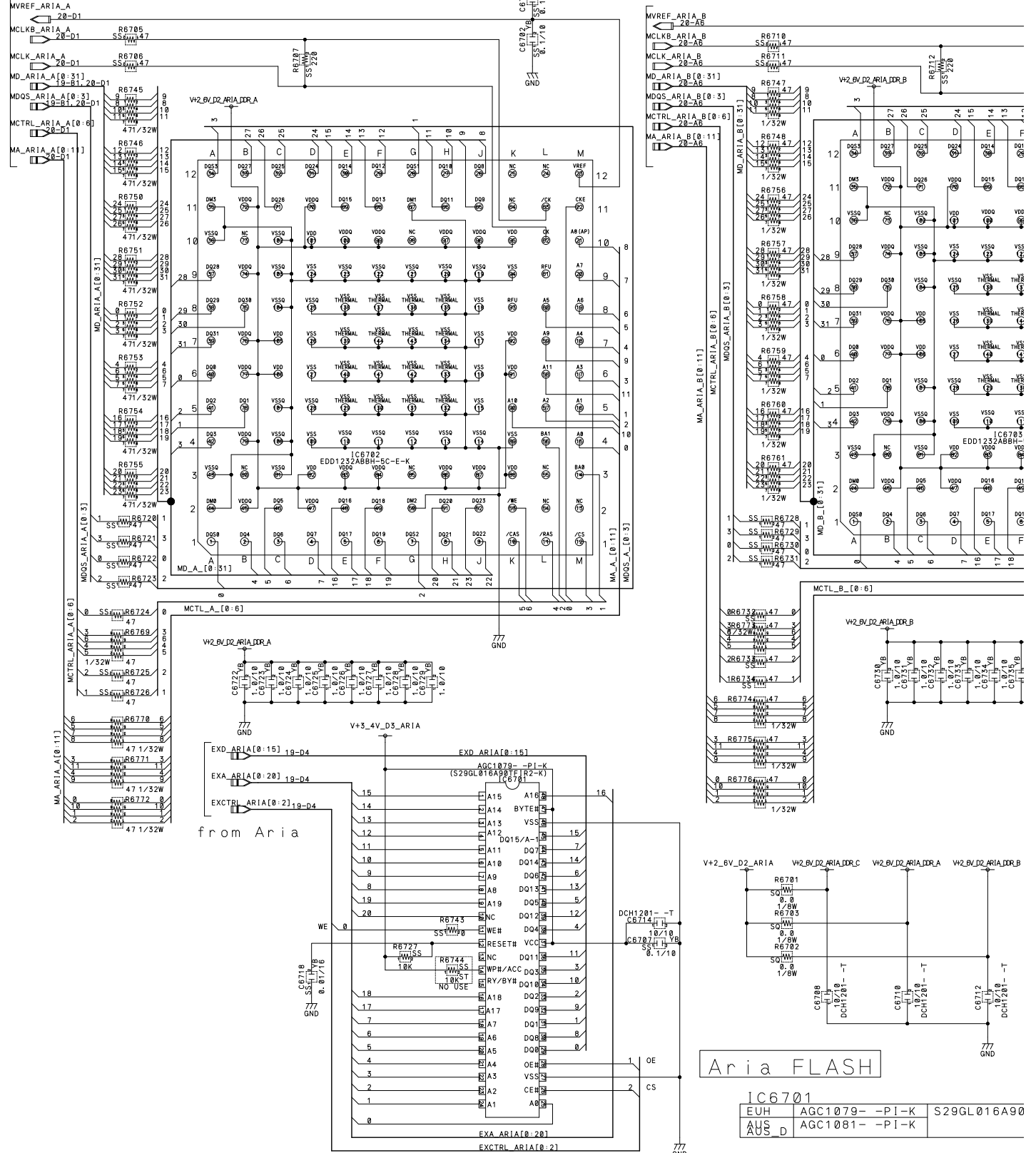
B

C

D

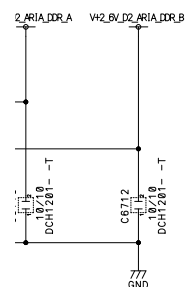
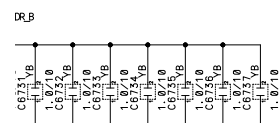
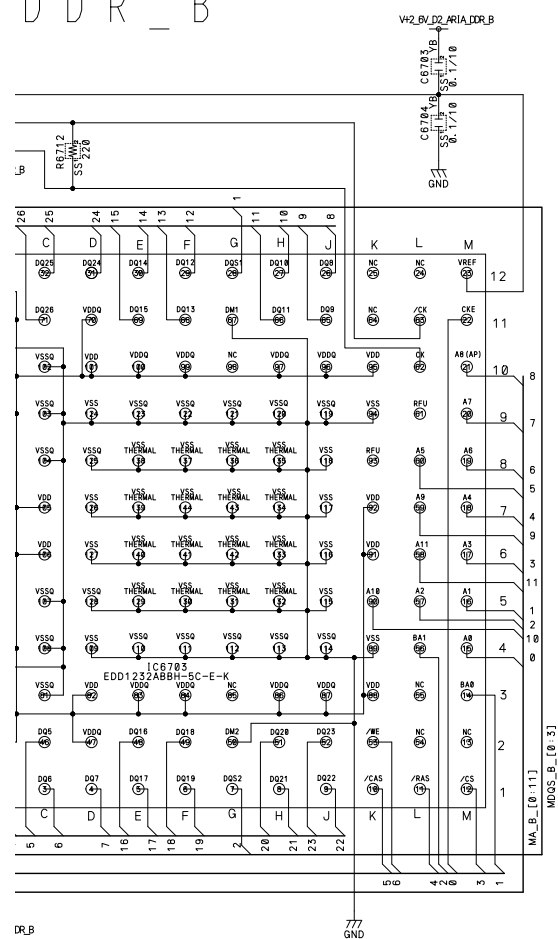
E

F



5702-IC6704 Parts Priority
EDD1232ABBH-5C-E-K
T. B. D

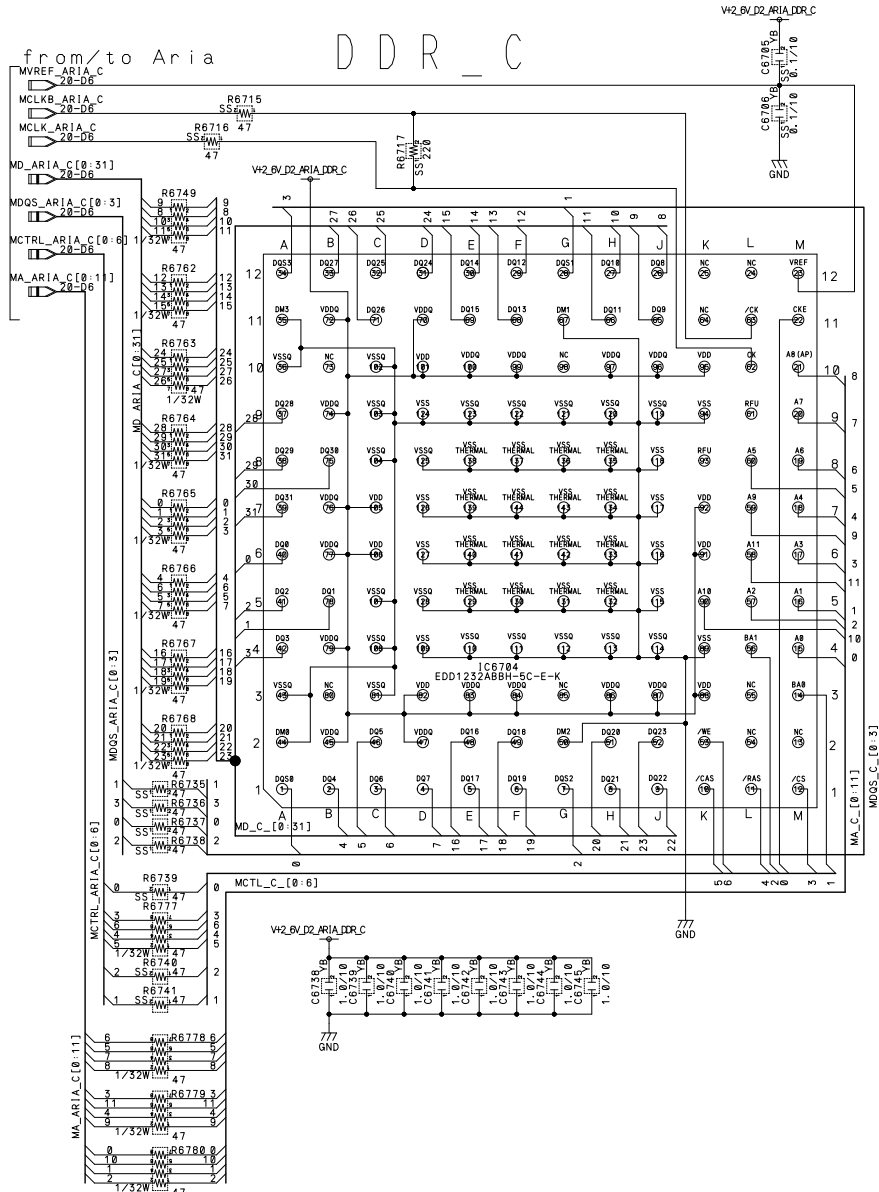
D D R B



-K	S29GL016A90TFIR2-K
-K	

from/to Aria

D D R C



ITEM	USD	VACANT		
		BJH AW/255	ALS AW/257	ALS D AW/259
C	6/01-6/03 6/10-6/12 6/14 6/18 6/22-6/26			
IC	6/01-6/04			
R	6/01-6/03 6/05-6/07 6/10-6/12 6/15-6/17	6/44	6/44	6/44

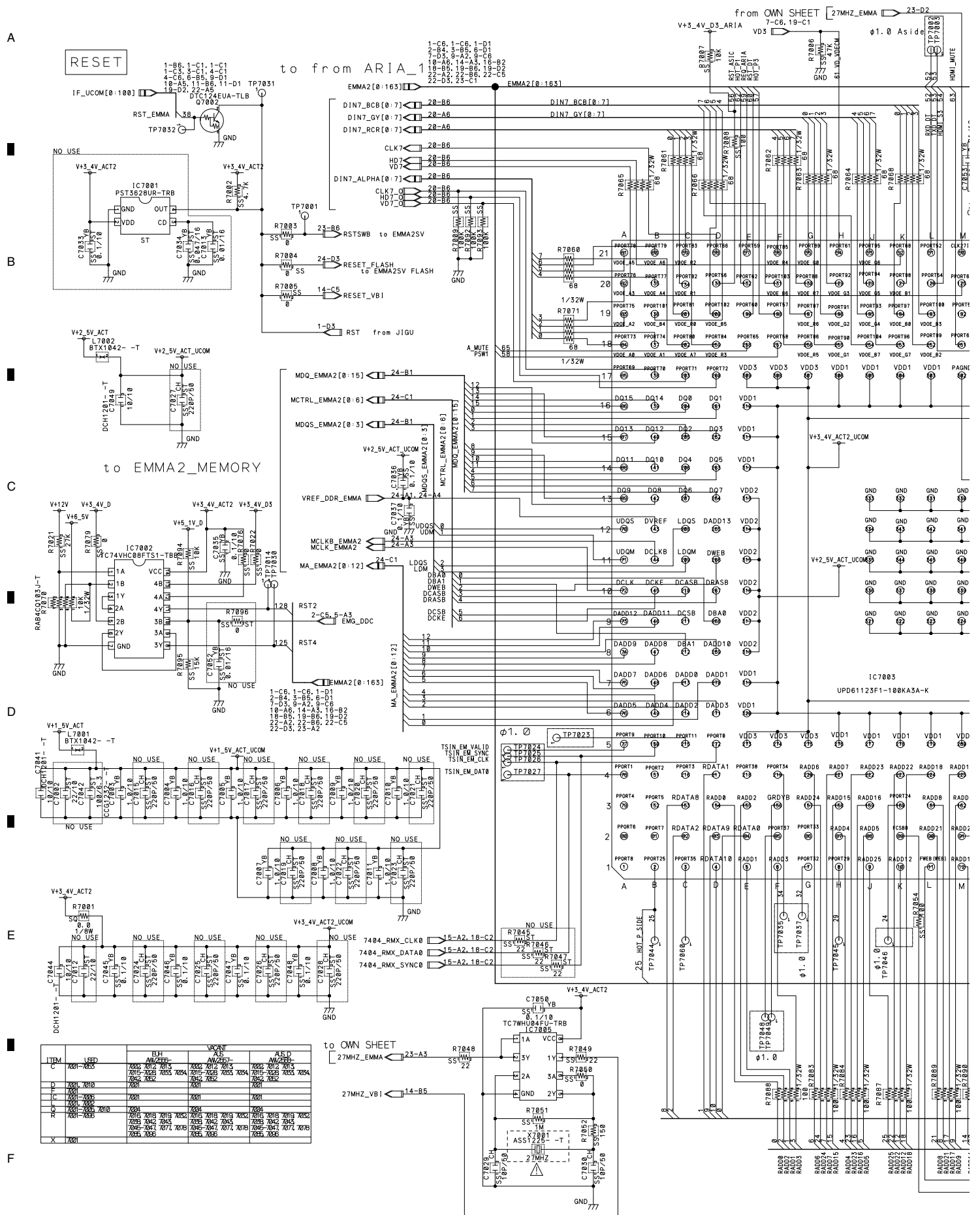
MAIN ASS'Y (EU_HD, AUS) (21/24)
ARIA_MEMORY BLOCK

AWV2556-
AWV2557-
AWV2588-

4

1 ■ 2 ■

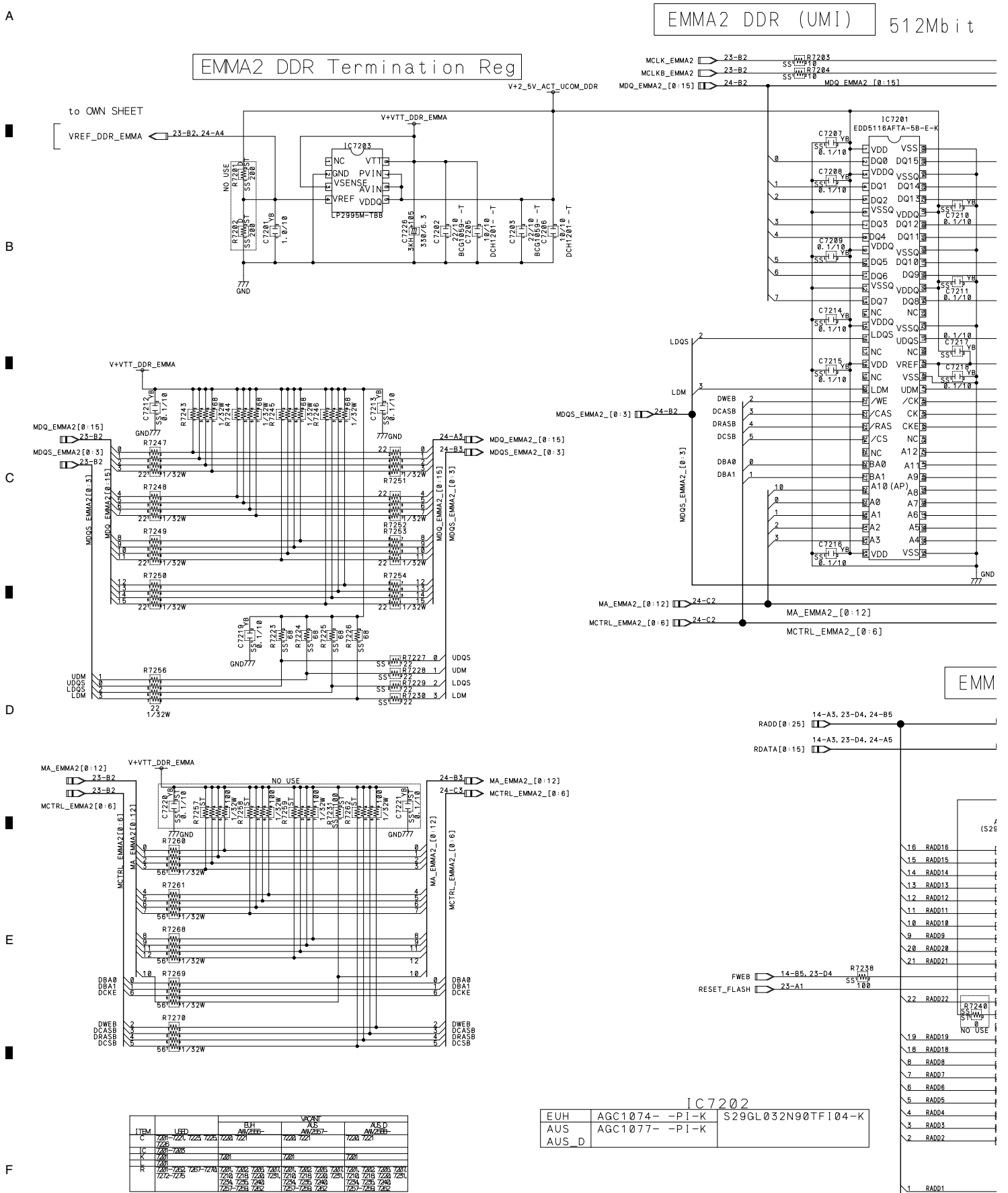
7.23 MAIN ASSY (23/24) [EMMA2 BLOCK]





△

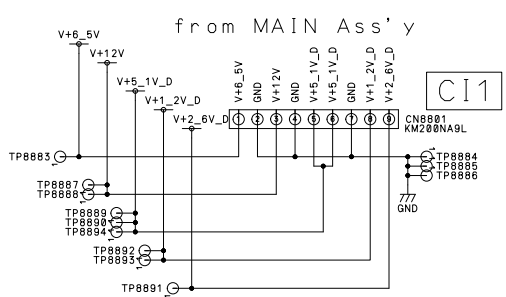
F



7.25 CARD ASSY (1/7) [BOARD_IF BLOCK]

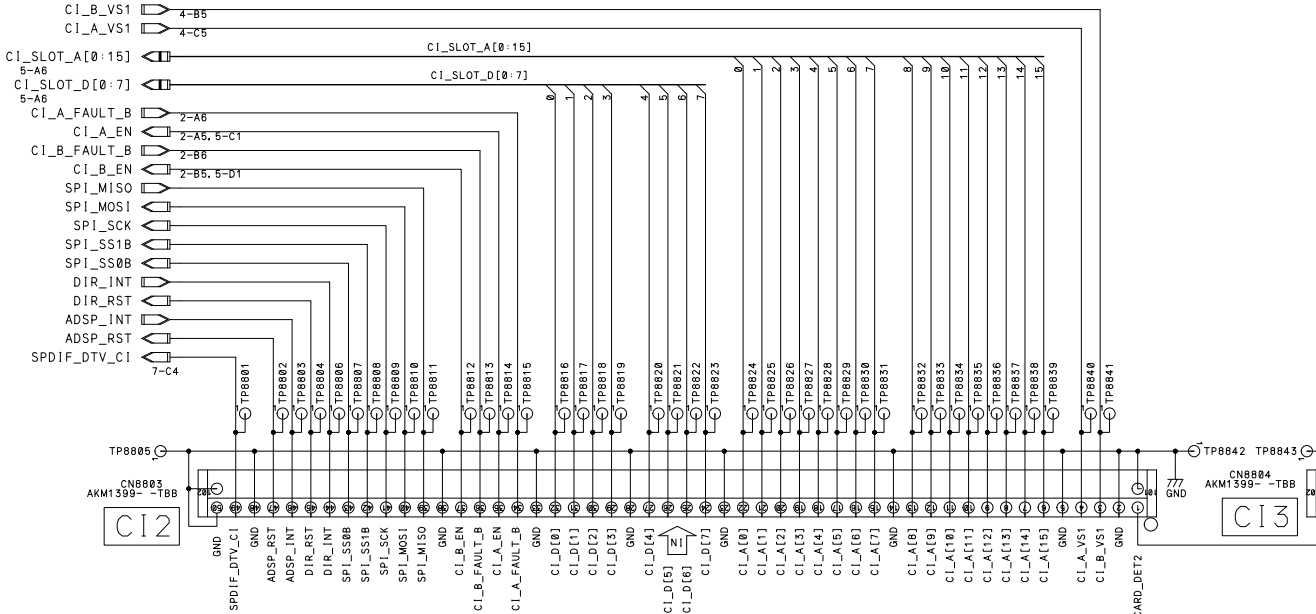
1 2 3 4

A



B

from/to MAIN



C

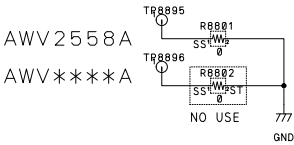
D

E

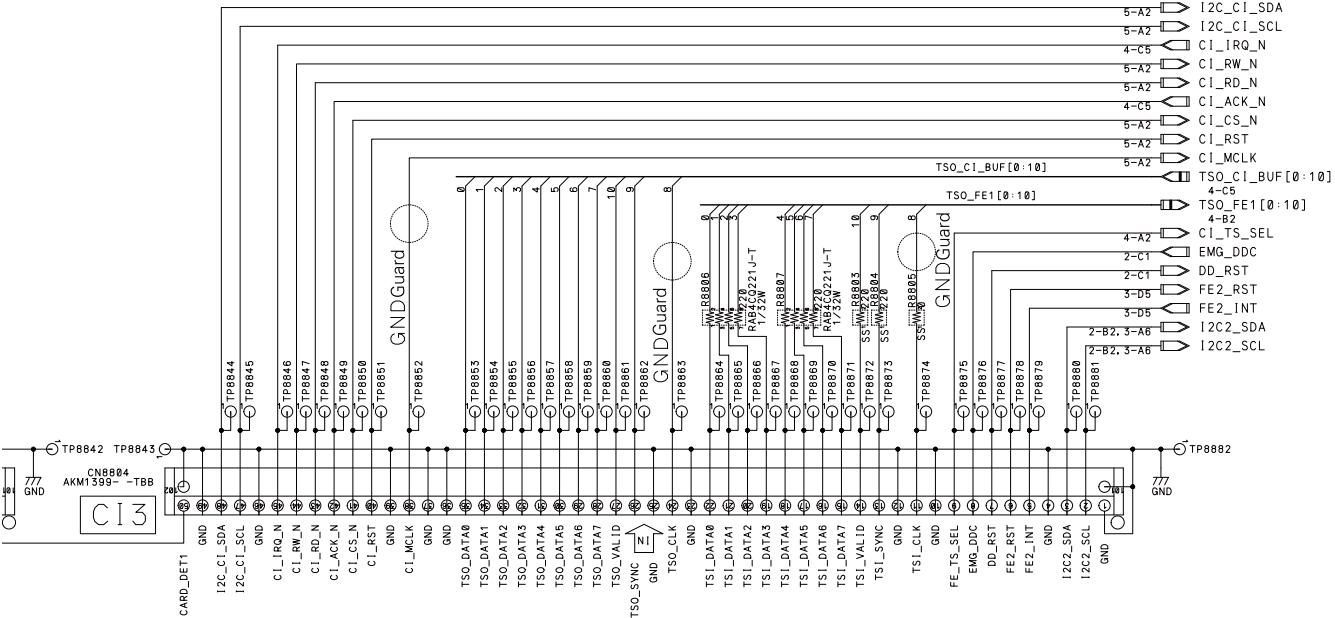
F

1 2 3 4

ITEM	USED	VACANT
R	8801-8807	8802
CN	8801, 8803, 8804	



to MAIN Ass'y

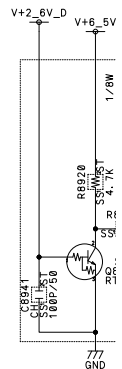


CI_CARD ASS'Y (EU_HD) (01/07)
BOARD_IF BLOCK

AWV2558-

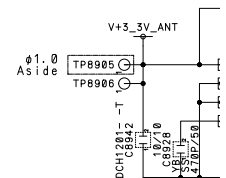
4

for CS_2 F_2

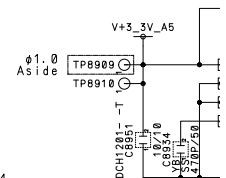
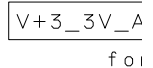


$$\boxed{V+3 \quad 3V \quad Al}$$

for C

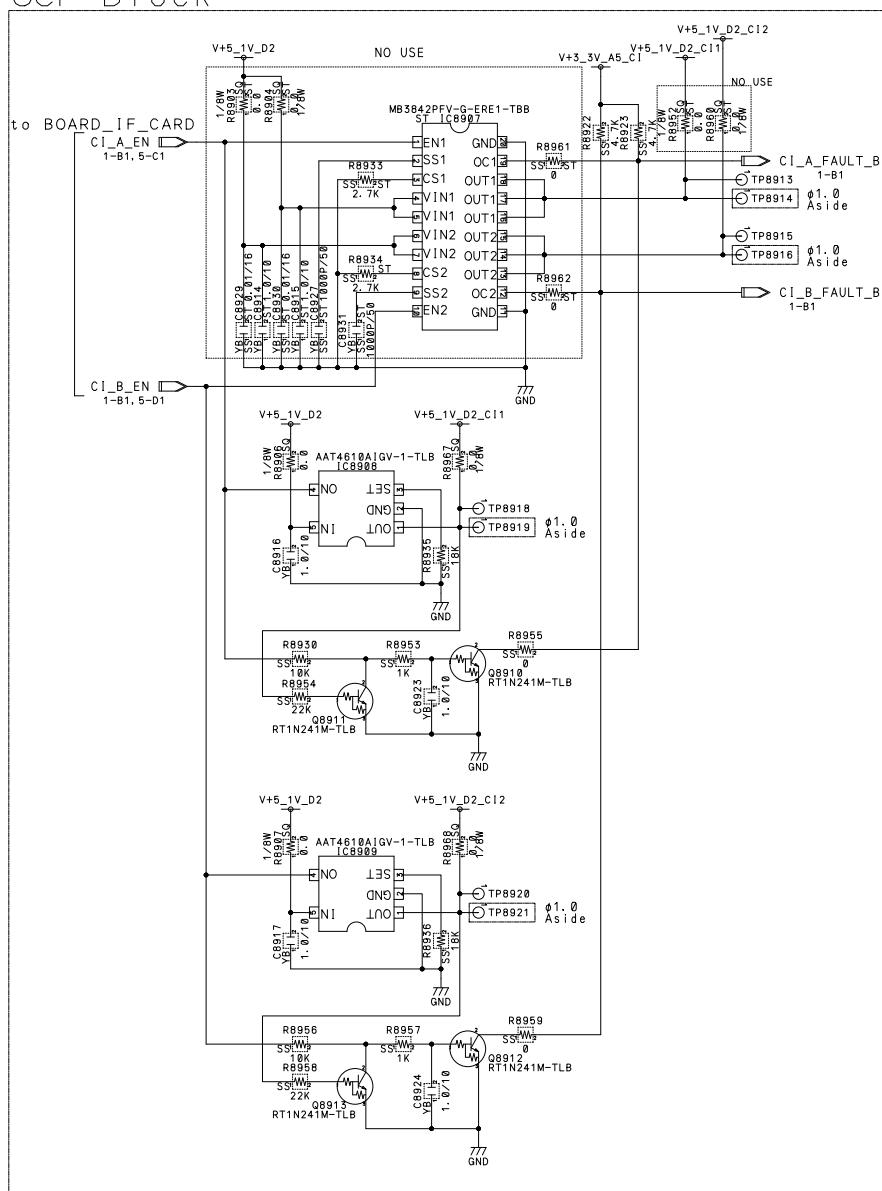
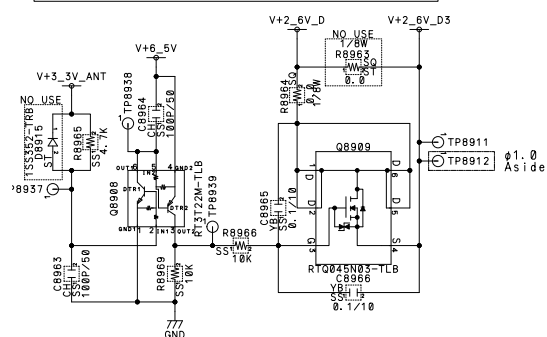


```
to BOARD_IF_CARD
```



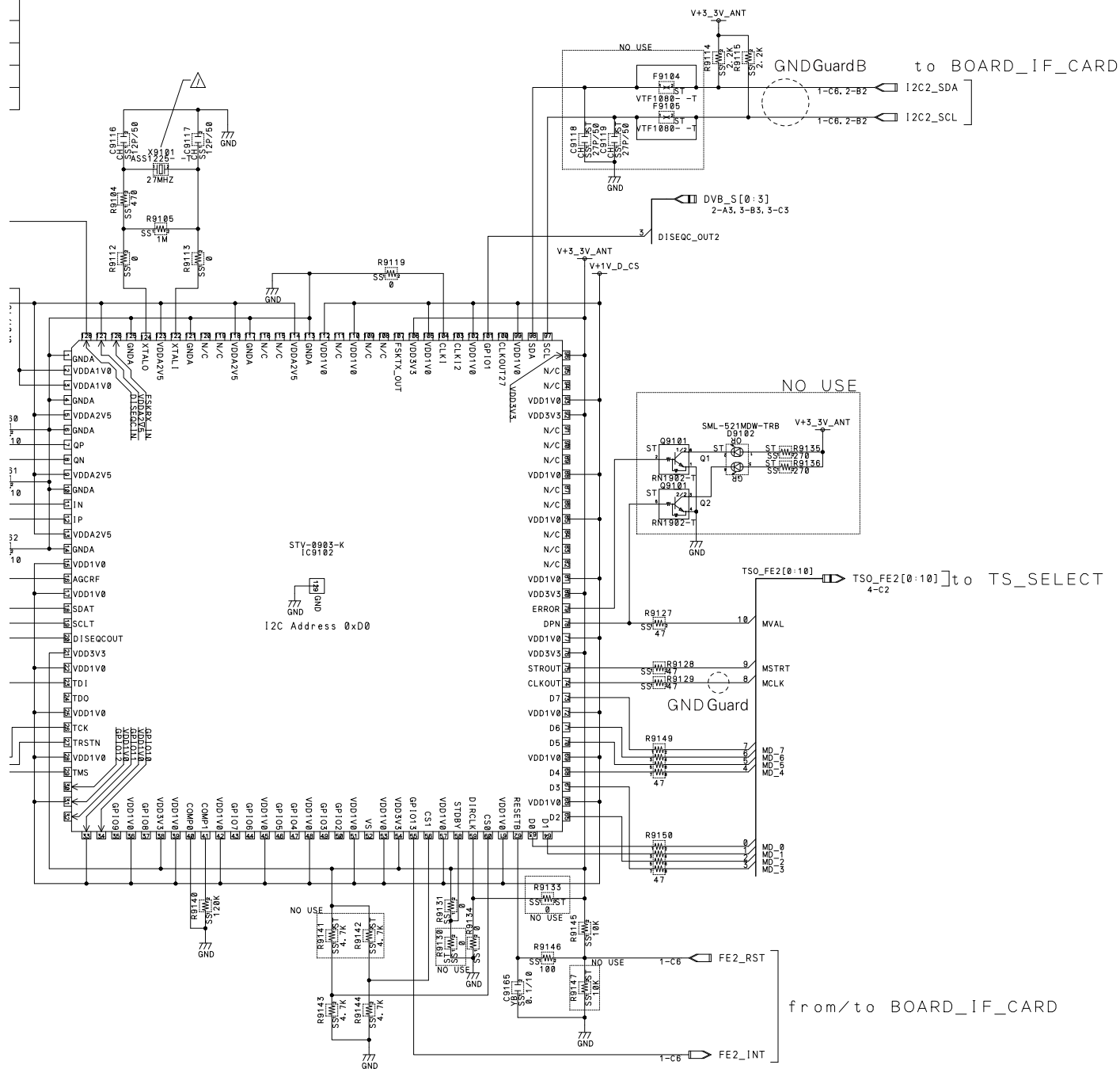
V+2_6V_D3

[illegible]



125

The Δ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.



CI_CARD ASS'Y (EU_HD) (03/07)
DVB-S BLOCK

AWV2558-

1 2 3 4

7.28 CARD ASSY (4/7) [TS_SEL. BLOCK]

A

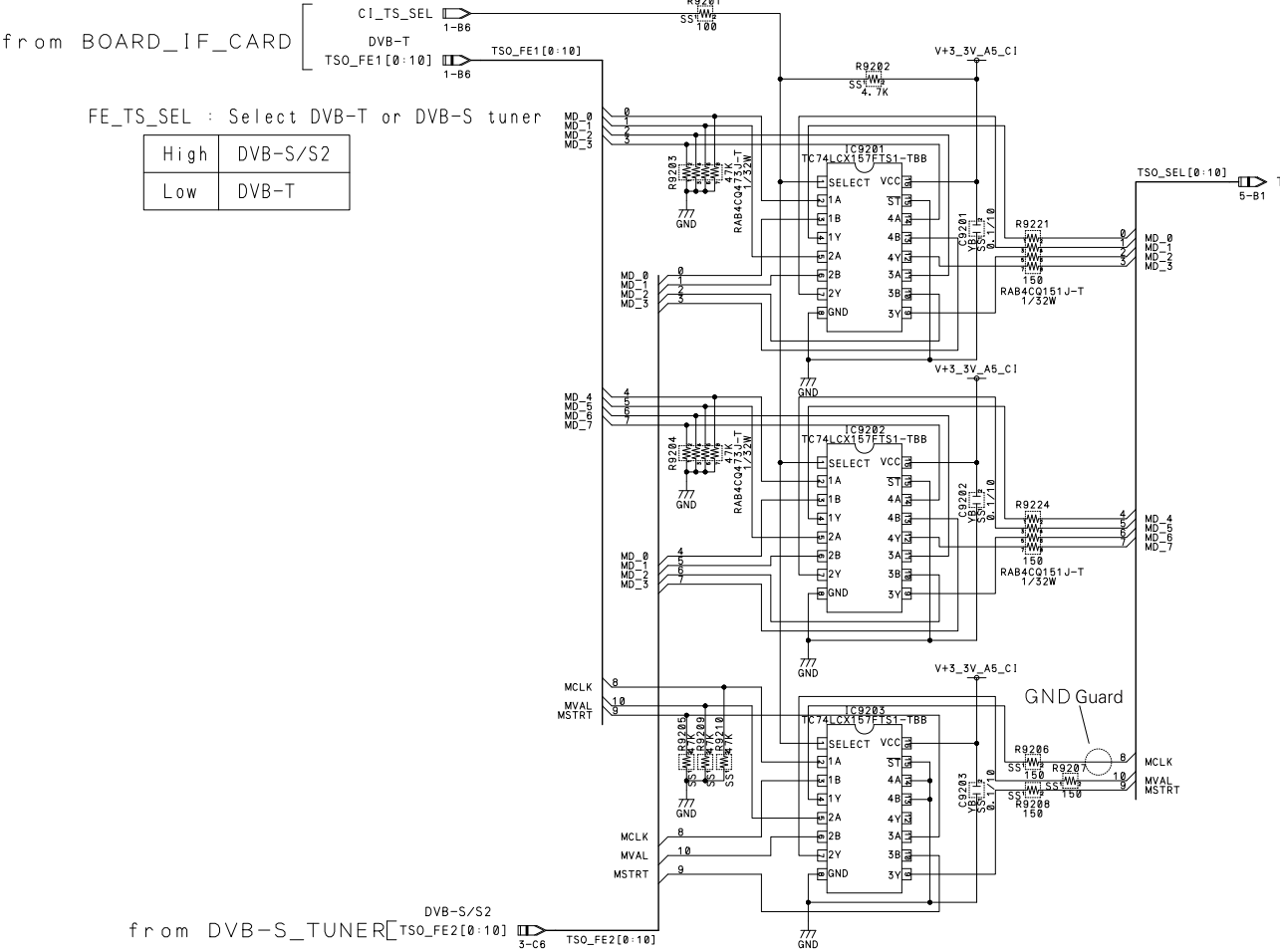
B

C

D

E

F



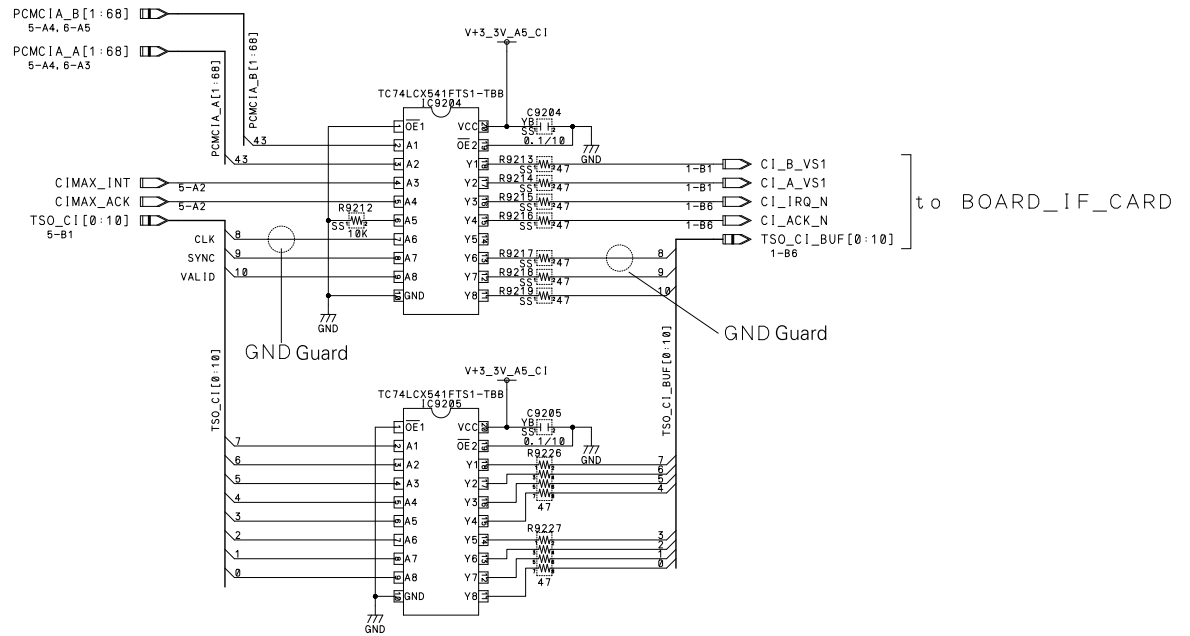
A

ITEM	USED	VACANT
R	9201~9210 9212~9219, 9221, 9224 9226, 9227	
C	9201~9205	
IC	9201~9205	

B

TSO_SEL[0:10] to CIMAX

C



D

E

CI_CARD ASS'Y (EU_HD) (04/07)
TS_SEL. BLOCK

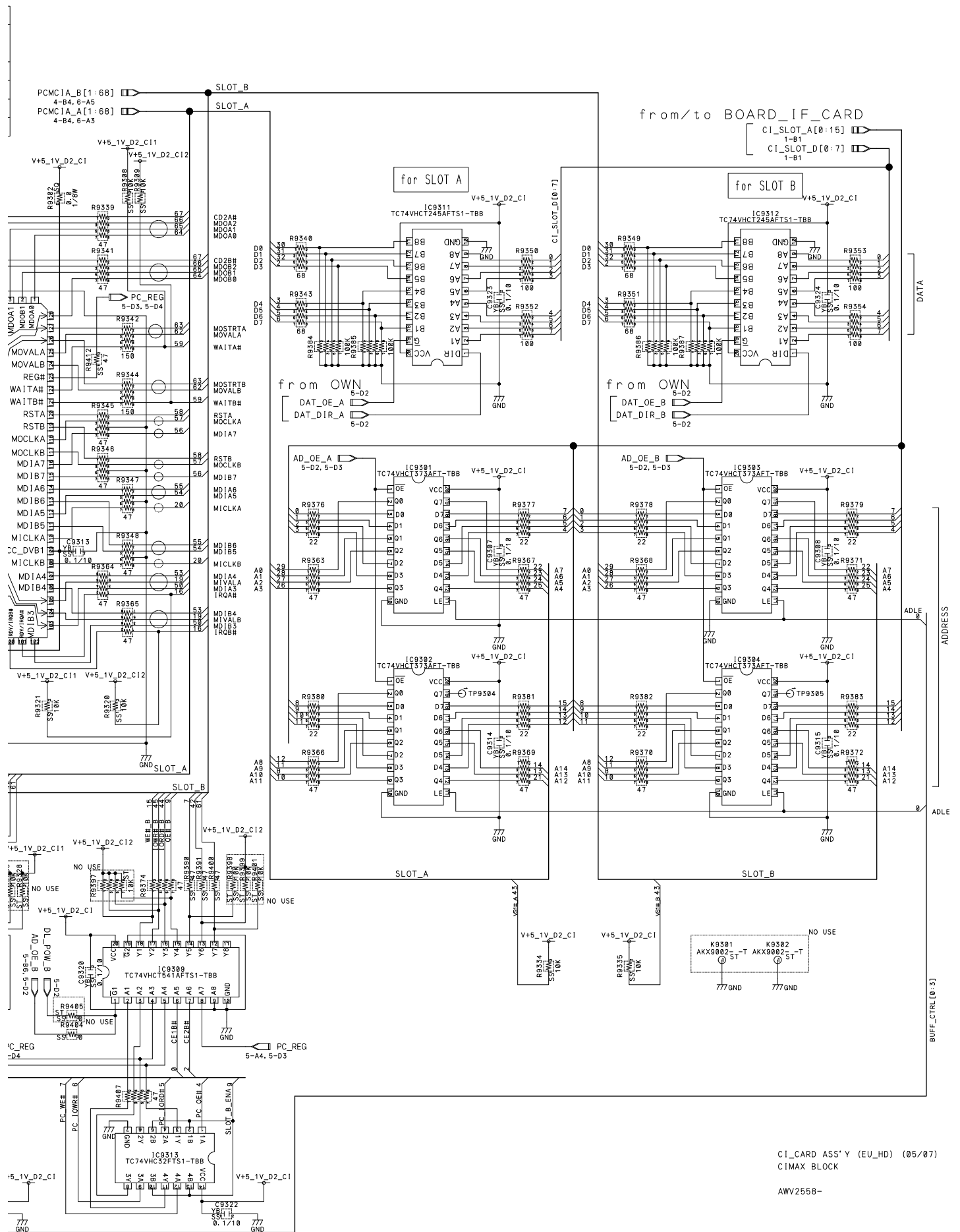
F

AWV2558-

4

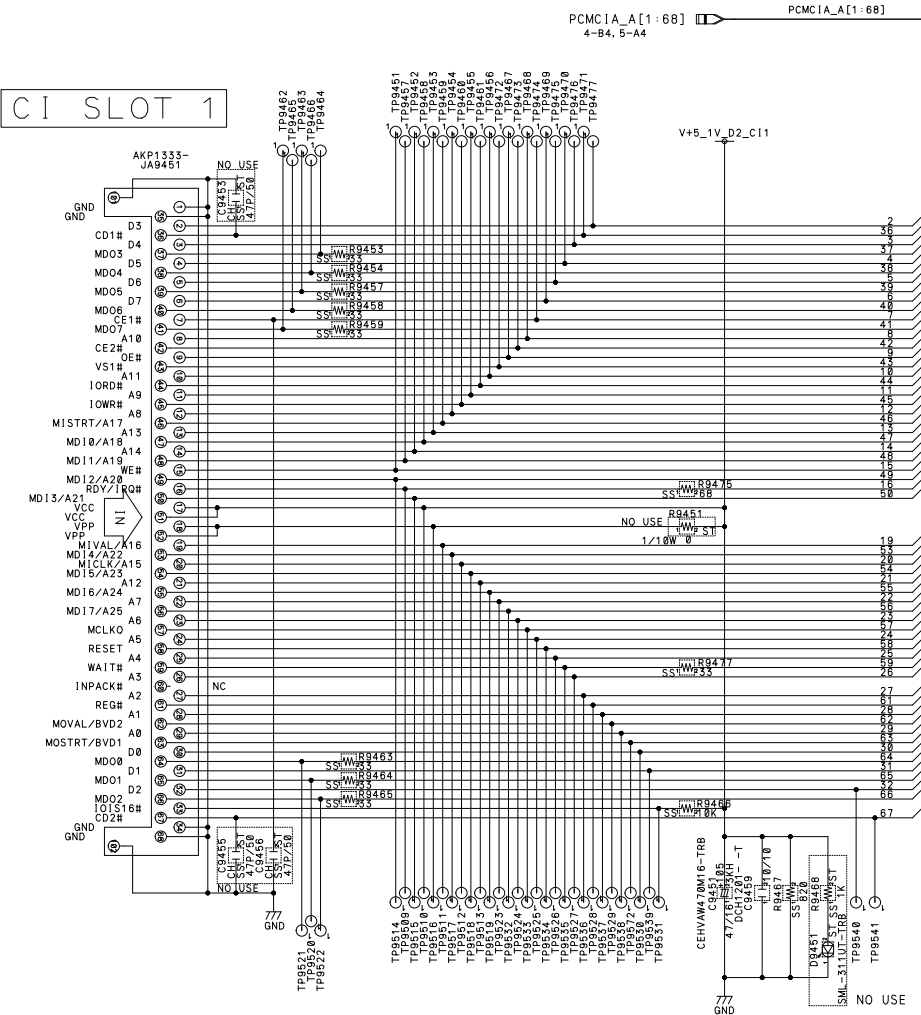
```
PCMCIA_B[1:68] [
    4-B4, 6-A5
PCMCIA_A[1:68] [
    4-B4, 6-A3
```



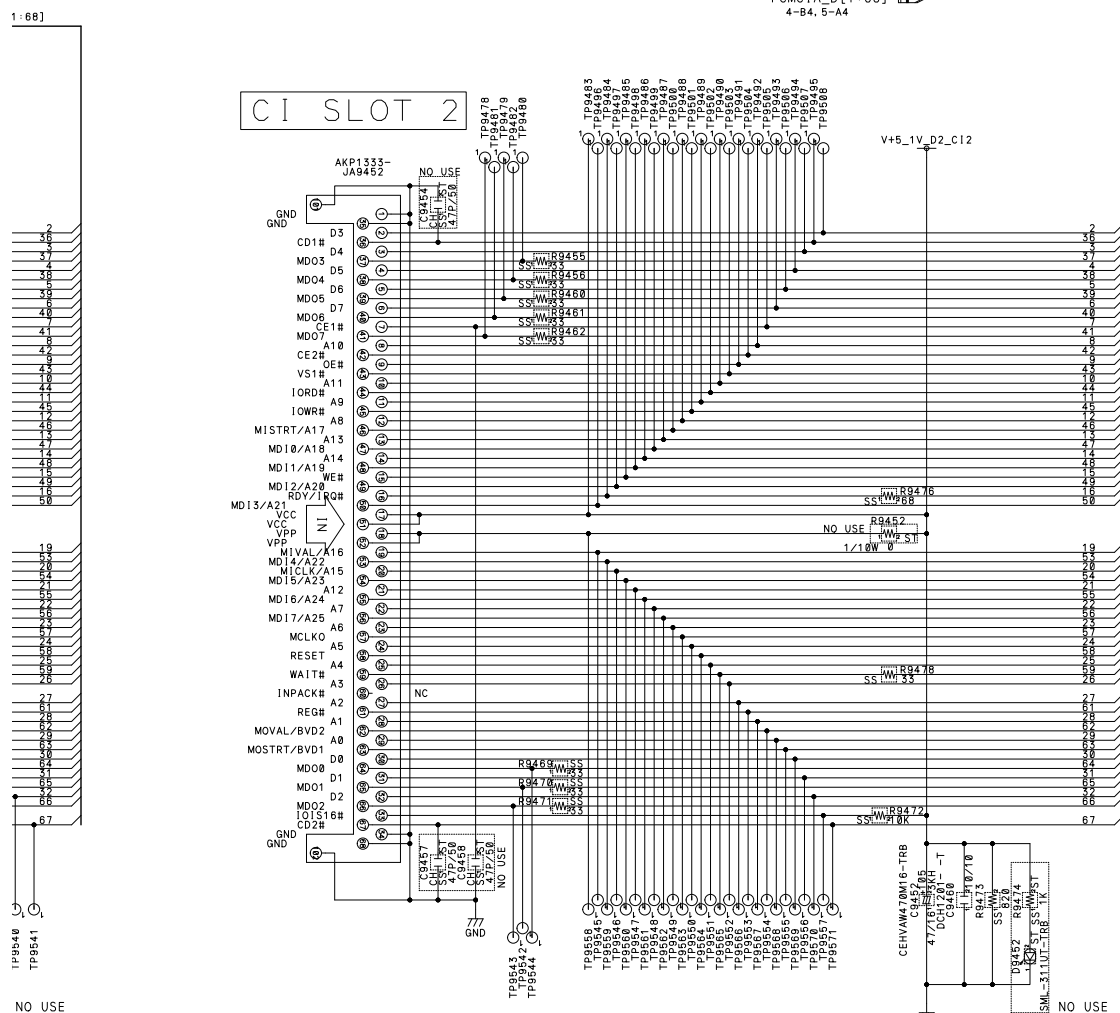


7.30 CARD ASSY (6/7) [CI_SLOT BLOCK]

ITEM	USED
R	9451-9478
C	9451-9460
D	9451, 9452
JA	9451, 9452



ITEM	USED	VACANT
R	9451-9478	9451, 9452, 9468, 9474
C	9451-9468	9453-9458
D	9451, 9452	9451, 9452
JA	9451, 9452	



CI_CARD ASS'Y (EU_HD) (06/07)
CI_SLOT BLOCK

AWV2558-

1 2 3 4

7.31 CARD ASSY (7/7) [PC BLOCK]

A

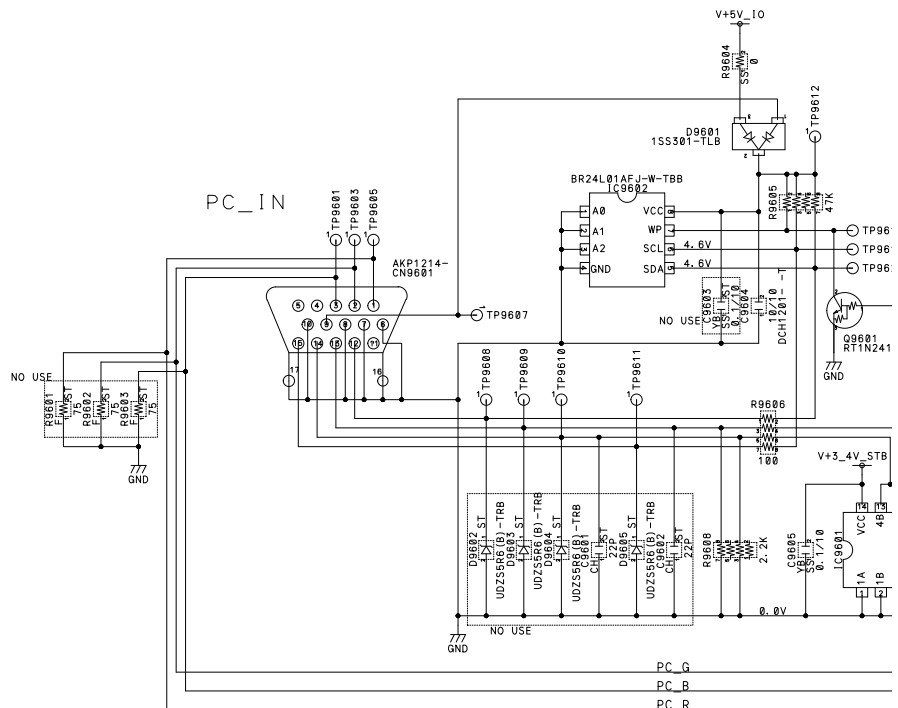
B

C

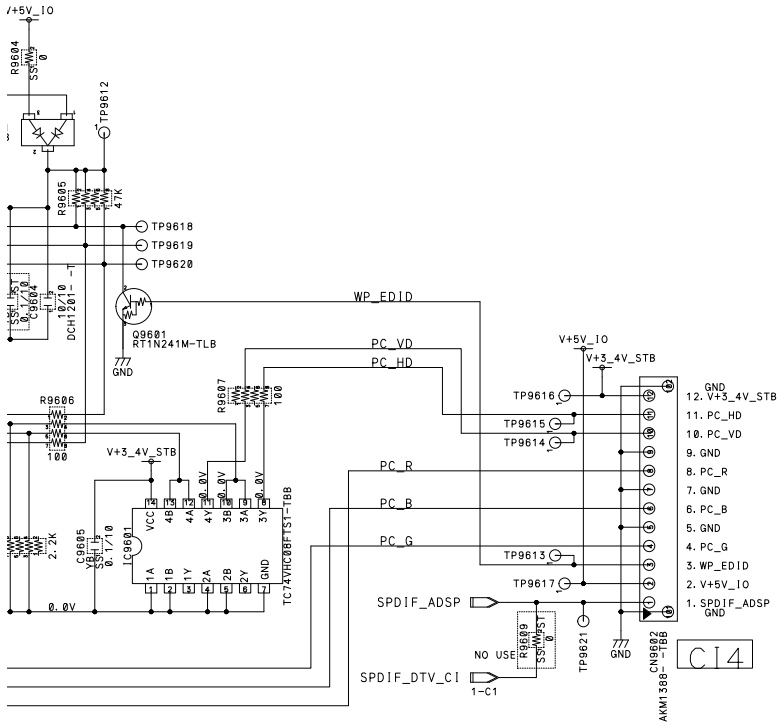
D

E

F



ITEM	USED	VACANT
R	9601-9609	9601-9603, 9609
C	9601-9605	9601-9603
D	9601-9605	9602-9605
Q	9601	
IC	9601, 9602	
CN	9601, 9602	



CI_CARD ASS'Y (EU_HD) (07/07)
PC BLOCK
AWV2558-

7.32 VOLTAGES

MTB MAIN Assy

DIGITAL Assy

M1 CN4105 (AKM1398- -TBB)		Voltage (V)	D12 CN3202 (AKM1398- -TBB)	
NO.	Name		Name	No.
1	MODE_C	0	MODE_C	40
2	GND	0	GND	39
3	GND	0	GND	38
4	GND	0	GND	37
5	B0_ODD	0 / 2.6	B0_ODD	36
6	B1_ODD	0 / 2.6	B1_ODD	35
7	B2_ODD	0 / 2.6	B2_ODD	34
8	B3_ODD	0 / 2.6	B3_ODD	33
9	B4_ODD	0 / 2.6	B4_ODD	32
10	B5_ODD	0 / 2.6	B5_ODD	31
11	B6_ODD	0 / 2.6	B6_ODD	30
12	B7_ODD	0 / 2.6	B7_ODD	29
13	B8_ODD	0 / 2.6	B8_ODD	28
14	B9_ODD	0 / 2.6	B9_ODD	27
15	GND	0	GND	26
16	G0_ODD	0 / 2.6	G0_ODD	25
17	G1_ODD	0 / 2.6	G1_ODD	24
18	G2_ODD	0 / 2.6	G2_ODD	23
19	G3_ODD	0 / 2.6	G3_ODD	22
20	G4_ODD	0 / 2.6	G4_ODD	21
21	G5_ODD	0 / 2.6	G5_ODD	20
22	G6_ODD	0 / 2.6	G6_ODD	19
23	G7_ODD	0 / 2.6	G7_ODD	18
24	G8_ODD	0 / 2.6	G8_ODD	17
25	G9_ODD	0 / 2.6	G9_ODD	16
26	GND	0	GND	15
27	R0_ODD	0 / 2.6	R0_ODD	14
28	R1_ODD	0 / 2.6	R1_ODD	13
29	R2_ODD	0 / 2.6	R2_ODD	12
30	R3_ODD	0 / 2.6	R3_ODD	11
31	R4_ODD	0 / 2.6	R4_ODD	10
32	R5_ODD	0 / 2.6	R5_ODD	9
33	R6_ODD	0 / 2.6	R6_ODD	8
34	R7_ODD	0 / 2.6	R7_ODD	7
35	R8_ODD	0 / 2.6	R8_ODD	6
36	R9_ODD	0 / 2.6	R9_ODD	5
37	GND	0	GND	4
38	GND	0	GND	3
39	SQ_SEL	0	SQ_SEL	2
40	MODE_B	0	MODE_B	1

MTB MAIN Assy

DIGITAL Assy

M4 CN4101 (AKM1399- -TBB)		Voltage (V)	D11 CN3201 (AKM1399- -TBB)	
NO.	Name		Name	No.
1	MODE_A	0	MODE_A	50
2	GND	0	GND	49
3	B0_EVN	0 / 2.6	B0_EVN	48
4	B1_EVN	0 / 2.6	B1_EVN	47
5	B2_EVN	0 / 2.6	B2_EVN	46
6	B3_EVN	0 / 2.6	B3_EVN	45
7	B4_EVN	0 / 2.6	B4_EVN	44
8	B5_EVN	0 / 2.6	B5_EVN	43
9	B6_EVN	0 / 2.6	B6_EVN	42
10	B7_EVN	0 / 2.6	B7_EVN	41
11	B8_EVN	0 / 2.6	B8_EVN	40
12	B9_EVN	0 / 2.6	B9_EVN	39
13	GND	0	GND	38
14	G0_EVN	0 / 2.6	G0_EVN	37
15	G1_EVN	0 / 2.6	G1_EVN	36
16	G2_EVN	0 / 2.6	G2_EVN	35
17	G3_EVN	0 / 2.6	G3_EVN	34
18	G4_EVN	0 / 2.6	G4_EVN	33
19	G5_EVN	0 / 2.6	G5_EVN	32
20	G6_EVN	0 / 2.6	G6_EVN	31
21	G7_EVN	0 / 2.6	G7_EVN	30
22	G8_EVN	0 / 2.6	G8_EVN	29
23	G9_EVN	0 / 2.6	G9_EVN	28
24	GND	0	GND	27
25	R0_EVN	0 / 2.6	R0_EVN	26
26	R1_EVN	0 / 2.6	R1_EVN	25
27	R2_EVN	0 / 2.6	R2_EVN	24
28	R3_EVN	0 / 2.6	R3_EVN	23
29	R4_EVN	0 / 2.6	R4_EVN	22
30	R5_EVN	0 / 2.6	R5_EVN	21
31	R6_EVN	0 / 2.6	R6_EVN	20
32	R7_EVN	0 / 2.6	R7_EVN	19
33	R8_EVN	0 / 2.6	R8_EVN	18
34	R9_EVN	0 / 2.6	R9_EVN	17
35	GND	0	GND	16
36	CLK	0 / 2.6	CLK	15
37	GND	0	GND	14
38	DE	0 / 2.6	DE	13
39	HD	0 / 2.6	HD	12
40	VD	0 / 2.6	VD	11
41	THEATER	0	THEATER	10
42	GND	0	GND	9
43	TXD_MD	0 / 3.3	TXD_MD	8
44	RXD_MD	0 / 3.3	RXD_MD	7
45	REQ_MD	0	REQ_MD	6
46	RELAY2	3.3	RELAY2	5
47	ARIA_OE	3.1	MULTI_OE	4
48	GND	0	GND	3
49	NC	0	NC	2
50	V+3_4V_ACT2	3.4	V+3_4V_ACT2	1

MTB MAIN Assy

POWER SPPLY UNIT

MTB MAIN Assy

POWER SPPLY UNIT

M2 CN4207 (KM200NA14)		Voltage (V)	P7 ---- (B14B-PH-K-S)	
NO.	Name		Name	No.
1	AC_DET	3.3	AC_DET	1
2	GND	0	GND_D	2
3	V+17V	17	V+17V	3
4	GND	0	GND_D	4
5	GND	0	GND_D	5
6	V+3_4V_STB	3.4	V+3.4V_STB	6
7	V+3_4V_STB	3.4	V+3.4V_STB	7
8	V+3_4V_STB	3.4	V+3.4V_STB	8
9	V+3_4V_STB	3.4	V+3.4V_STB	9
10	V+3_4V_STB	3.4	V+3.4V_STB	10
11	GND	0	GND_D	11
12	GND	0	GND_D	12
13	NC(Relay)	0	NC	13
14	M_SW_DET	3.3	M_SW_DET	14

M3 CN4210 (KM200NA15)		Voltage (V)	P6 ---- (B15B-PH-K-S)	
NO.	Name		Name	No.
1	V+5_1V_STB	5.1	V+5.1V_STB	1
2	GND	0	GND_D	2
3	GND	0	GND_D	3
4	GND	0	GND_D	4
5	GND	0	GND_D	5
6	GND	0	GND_D	6
7	V+6_5V	6.5	V+6.5V	7
8	V+6_5V	6.5	V+6.5V	8
9	V+6_5V	6.5	V+6.5V	9
10	V+6_5V	6.5	V+6.5V	10
11	V+6_5V	6.5	V+6.5V	11
12	V+6_5V	6.5	V+6.5V	12
13	GND	0	GND_D	13
14	V+12V	12	V+12V	14
15	V+12V	12	V+12V	15

MTB MAIN Assy

FAN CONNECT Assy

MTB MAIN Assy

USB CABLE

M5 CN4202 (KM200NA4)		Voltage (V)	FA1 CN8761 (KM200NA4)	
NO.	Name		Name	No.
1	FAN_VCC2	0.3		1
2	FAN_VCC1	0.3		2
3	GND	0		3
4	FAN_NG2	3.3		4

M6 CN4107 (AKM1276- -TBB)		Voltage (V)	J301 ---- (----)	
NO.	Name		Name	No.
1	VBUS	5.1	VBUS	1
2	D-	0	D-	2
3	D+	0	D+	3
4	GND	0	GND	4
5	SHELD	0	SHELD	4

MTB MAIN Assy

SIDE KEY Assy

MTB MAIN Assy

LED Assy

M11 CN4209 (KM200NA10)		Voltage (V)	SW1 CN8701 (AKM1431-)	
NO.	Name		Name	No.
1	LED-			
2	LED_ON			
3	LED_OFF			
4	LED_TIMER			
5	LED-			
6	LED-			
7	GND	0	GND	1
8	KEY2	3.4	KEY2	2
9	KEY1	3.4	KEY1	3
10	V+3_4V_STB	3.4	V+3_4V_STB	4

M11 CN4209 (KM200NA10)		Voltage (V)	L1 CN8721 (AKM1425- -TBB)	
NO.	Name		Name	No.
1	LED-	0	LED-	1
2	LED_ON	2.8	LED_ON	2
3	LED_OFF	0	LED_OFF	3
4	LED_TIMER	0	LED_TIMER	4
5	LED-	0	LED-	5
6	LED-	0	LED-	6
7	GND			
8	KEY2			
9	KEY1			
10	V+3_4V_STB			

MTB MAIN Assy

FAN

M10 CN4201 (KM200NA3)		Voltage (V)	RESERVED	
NO.	Name		Name	No.
1	FAN_VCC			
2	FAN_NG1			
3	GND			

MTB MAIN Assy

IO_AUDIO Assy

M12 CN4003 (AKM1399- -TBB)		Voltage (V)	IO3 CN7503 (AKM1399- -TBB)	
NO.	Name		Name	No.
1	GND	0	GND	50
2	HP_PLUG	0	HP_PLUG	49
3	WP_EDID	0	WP_EDID	48
4	DSUB_DET	0	DSUB_DET	47
5	AC_HP_MUTE	2.8	AC_HP_MUTE	46
6	GND	0	GND	45
7	SDA_AV	0 / 3.3	SDA_AV	44
8	SCL_AV	0 / 3.3	SCL_AV	43
9	GND	0	GND	42
10	AC_A_MUTE	0	AC_A_MUTE	41
11	RST_MSP	0	RST_MSP	40
12	OTW	2.9	OTW	39
13	A_NG_B	2.9	A_NG_B	38
14	GND	0	GND	37
15	I2S_BCLK_DTV	0 / 3.3	I2S_BCLK_DTV	36
16	GND	0	GND	35
17	I2S_LRCLK_DTV	0 / 3.3	I2S_LRCLK_DTV	34
18	I2S_SDATA_DTV	0	I2S_SDATA_DTV	33
19	GND	0	GND	32
20	GND	0	GND(I2S_BCLK_HDMI)	31
21	GND	0	GND	30
22	SPDIF_HDMI	0 / 3.1	SPDIF_HDMI	29
23	GND	0	GND(I2S_SDATA_HDMI)	28
24	GND	0	GND	27
25	SPDIF_DTV	0 / 3.1	SPDIF_DTV	26
26	GND	0	GND	25
27	EMMA_DA_GY	0 / 0.3	EMMA_DA_GY	24
28	EMMA_DA_BCB	0.7	EMMA_DA_BCB	23
29	EMMA_DA_RCR	0.7	EMMA_DA_RCR	22
30	GND	0	GND	21
31	EXT_HD	0 / 3.2	EXT_HD	20
32	EXT_VD	0 / 3.2	EXT_VD	19
33	INT_VD	0 / 3.2	INT_VD	18
34	INT_HD	0 / 3.2	INT_HD	17
35	CLP_RGB1	0 / 3.3	CLP_RGB1	16
36	CLP_RGB2	0 / 3.3	CLP_RGB2	15
37	GND	0	GND	14
38	SDA_AV5	0 / 5.0	SDA_AV5	13
39	SCL_AV5	0 / 5.0	SCL_AV5	12
40	GND	0	GND	11
41	SR_OUT	4.8	SR_OUT	10
42	TXD_SR	3.1	TXD_SR	9
43	RXD_SR	3.1	RXD_SR	8
44	GND	0	GND	7
45	TXD_232C_1	3.3	TXD_232C_1	6
46	RXD_232C_1	3.3	RXD_232C_1	5
47	NC(232C_EN_B)	0	NC(232C_EN_B)	4
48	232C_DET	3.3	232C_DET	3
49	RST4	3.3	RST4	2
50	GND(IO_DET)	0	GND(IO_DET)	1

MTB MAIN Assy

IO_AUDIO Assy

M13 CN4004 (AKM1398- -TBB)		Voltage (V)	IO4 CN7504 (AKM13998- -TBB)	
NO.	Name		Name	No.
1	GND	0	GND	40
2	RCR_AD	1.0 / 1.7	RCR_AD	39
3	GND	0	GND	38
4	BCB_AD	1.0 / 1.7	BCB_AD	37
5	GND	0	GND	36
6	GY_AD	1.1 / 2.1	GY_AD	35
7	GND	0	GND	34
8	RCR_VDEC	1.4 / 2.1	RCR_VDEC	33
9	GND	0	GND	32
10	BCB_VDEC	1.4 / 2.1	BCB_VDEC	31
11	GND	0	GND	30
12	GY_VDEC	1.4 / 2.1	GY_VDEC	29
13	GND	0	GND	28
14	FB_VDEC	0 or 3.2	FB_VDEC	27
15	GND	0	GND	26
16	VBI_Y	1.5 / 2.7	VBI_Y	25
17	GND	0	GND	24
18	MAIN_C	1.9 / 2.4	MAIN_C	23
19	GND	0	GND	22
20	MAIN_Y	1.5 / 2.4	MAIN_Y	21
21	GND	0	GND	20
22	SUB_C	1.9 / 2.4	SUB_C	19
23	GND	0	GND	18
24	SUB_Y	1.5 / 2.4	SUB_Y	17
25	GND	0	GND	16
26	A_TUNER_V	1.3 / 2.2	A_TUNER_V	15
27	GND	0	GND	14
28	DT_MON_CVBS	2.0 / 3.0	DT_MON_CVBS	13
29	GND	0	GND	12
30	AIR_SIF	2.8 / 3.6	AIR_SIF	11
31	GND	0	GND	10
32	AC_AM_MUTE	0	AC_AM_MUTE	9
33	TEMP2	DC	TEMP2	8
34	AC_SC1_MUTE	0	AC_SC1_MUTE	7
35	LINK_IO2	4.7	LINK_IO2	6
36	AC_SC2_MUTE	0	AC_SC2_MUTE	5
37	LINK_IO3	4.7	LINK_IO3	4
38	AC_SC3_MUTE	0	AC_SC3_MUTE	3
39	NC(IR_OUT)	0	NC(IR_OUT)	2
40	GND	0	GND	1

MTB MAIN Assy**IO_AUDIO Assy**

M14 CN4005 (AKP1320-B)		Voltage (V)	IO1 CN7501 (AKM1377-)	
NO.	Name		Name	No.
1	V+12V	11.3	V+12V	1
2	V+8V_IO	7.9	V+8V_IO	2
3	GND	0	GND	3
4	V+3_4V_D	3.3	V+3_4V_D	4
5	V+3_4V_STB	3.3	V+3_4V_STB	5
6	GND	0	GND	6
7	V+6_5V	6.4	V+6_5V	7

MTB MAIN Assy**RLS Assy**

M15 CN4208 (KM200NA7)		Voltage (V)	RL1 CN8736 (AKM1422- -TBB)	
NO.	Name		Name	No.
1	GND	0	GND	1
2	RLS_L	DC	RLS_L	2
3	V+3_4V_ACT2	3.3	V+3_4V_ACT2	3
4	V+3_4V_STB			
5	REM			
6	GND			
7	NC			

MTB MAIN Assy**IR Assy**

M15 CN4208 (KM200NA7)		Voltage (V)	RE1 CN8751 (AKM1289- -TBB)	
NO.	Name		Name	No.
1	GND			
2	RLS_L			
3	V+3_4V_ACT2			
4	V+3_4V_STB	3.4	V+3_4V_STB	1
5	REM	0 / 3.2	REM	2
6	GND	0	GND	3
7	NC			

MTB MAIN Assy**CARD Assy**

M18 CN4204 (KM200NA9)		Voltage (V)	CI1 CN8801 (KM200NA9L)	
NO.	Name		Name	No.
1	V+6_5V	6.5	V+6_5V	1
2	GND	0	GND	2
3	V+12V	12.0	V+12V	3
4	GND	0	GND	4
5	V+5_1V_D	5.1	V+5_1V_D	5
6	V+5_1V_D	5.1	V+5_1V_D	6
7	GND	0	GND	7
8	V+1_2V_D	1.3	V+1_2V_D	8
9	V+2_6V_D	2.6	V+2_6V_D	9

MTB MAIN Assy

CARD Assy

M16 CN4102 (AKM1399- -TBB)		Voltage (V)	CI2 CN8803 (AKM1399- -TBB)	
NO.	Name		Name	No.
1	GND	0	GND	50
2	SPDIF_DTV_CI	1.5 / 1.7	SPDIF_DTV_CI	49
3	GND	0	GND	48
4	ADSP_RST	3.3	ADSP_RST	47
5	ADSP_INT	0	ADSP_INT	46
6	DIR_RST	3.3	DIR_RST	45
7	DIR_INT	0	DIR_INT	44
8	SPI_SS0B	3.3	SPI_SS0B	43
9	SPI_SS1B	3.3	SPI_SS1B	42
10	SPI_SCK	3.3	SPI_SCK	41
11	SPI_MOSI	3.3	SPI_MOSI	40
12	SPI_NISO	0	SPI_NISO	39
13	GND	0	GND	38
14	CI_B_EN	3.1	CI_B_EN	37
15	CI_B_FAULT_B	0	CI_B_FAULT_B	36
16	CI_A_EN	2.8 / 3.3	CI_A_EN	35
17	CI_A_FAULT_B	0	CI_A_FAULT_B	34
18	GND	0	GND	33
19	CI_D[0]	3.3	CI_D[0]	32
20	CI_D[1]	0	CI_D[1]	31
21	CI_D[2]	0	CI_D[2]	30
22	CI_D[3]	0	CI_D[3]	29
23	GND	0	GND	28
24	CI_D[4]	0	CI_D[4]	27
25	CI_D[5]	0	CI_D[5]	26
26	CI_D[6]	0	CI_D[6]	25
27	CI_D[7]	0	CI_D[7]	24
28	GND	0	GND	23
29	CI_A[0]	0	CI_A[0]	22
30	CI_A[1]	0	CI_A[1]	21
31	CI_A[2]	0	CI_A[2]	20
32	CI_A[3]	0	CI_A[3]	19
33	CI_A[4]	0	CI_A[4]	18
34	CI_A[5]	0	CI_A[5]	17
35	CI_A[6]	0	CI_A[6]	16
36	CI_A[7]	0	CI_A[7]	15
37	GND	0	GND	14
38	CI_A[8]	0	CI_A[8]	13
39	CI_A[9]	0	CI_A[9]	12
40	CI_A[10]	3.3	CI_A[10]	11
41	CI_A[11]	3.3	CI_A[11]	10
42	CI_A[12]	0	CI_A[12]	9
43	CI_A[13]	3.3	CI_A[13]	8
44	CI_A[14]	3.3	CI_A[14]	7
45	CI_A[15]	0	CI_A[15]	6
46	GND	0	GND	5
47	CI_A_VS1	0	CI_A_VS1	4
48	CI_B_VS1	3.3	CI_B_VS1	3
49	GND	0	GND	2
50	CARD_DET2	3.3	CARD_DET2	1

MTB MAIN Assy

CARD Assy

M17 CN4106 (AKM1399- -TBB)		Voltage (V)	CI3 CN8804 (AKM1399- -TBB)	
NO.	Name		Name	No.
1	CARD_DET1	0	CARD_DET1	50
2	GND	0	GND	49
3	I2C_CI_SDA	3.3	I2C_CI_SDA	48
4	I2C_CI_SCL	3.3	I2C_CI_SCL	47
5	GND	0	GND	46
6	CI_IRQ_N	3.3	CI_IRQ_N	45
7	CI_RW_N	3.3	CI_RW_N	44
8	CI_RD_N	3.3	CI_RD_N	43
9	CI_ACK_N	3.3	CI_ACK_N	42
10	CI_CS_N	3.3	CI_CS_N	41
11	CI_RST	0.1	CI_RST	40
12	GND	0	GND	39
13	CI_MCLK	0 / 3.3	CI_MCLK	38
14	GND	0	GND	37
15	GND	0	GND	36
16	TSO_DATA0	0 / 3.3	TSO_DATA0	35
17	TSO_DATA1	0 / 3.3	TSO_DATA1	34
18	TSO_DATA2	0 / 3.3	TSO_DATA2	33
19	TSO_DATA3	0 / 3.3	TSO_DATA3	32
20	TSO_DATA4	0 / 3.3	TSO_DATA4	31
21	TSO_DATA5	0 / 3.3	TSO_DATA5	30
22	TSO_DATA6	0 / 3.3	TSO_DATA6	29
23	TSO_DATA7	0 / 3.3	TSO_DATA7	28
24	TSO_VALID	0 / 3.3	TSO_VALID	27
25	TSO_SYNC	0 / 3.3	TSO_SYNC	26
26	GND	0	GND	25
27	TSO_CLK	0 / 3.3	TSO_CLK	24
28	GND	0	GND	23
29	TSI_DATA0	0 / 3.3	TSI_DATA0	22
30	TSI_DATA1	0 / 3.3	TSI_DATA1	21
31	TSI_DATA2	0 / 3.3	TSI_DATA2	20
32	TSI_DATA3	0 / 3.3	TSI_DATA3	19
33	TSI_DATA4	0 / 3.3	TSI_DATA4	18
34	TSI_DATA5	0 / 3.3	TSI_DATA5	17
35	TSI_DATA6	0 / 3.3	TSI_DATA6	16
36	TSI_DATA7	0 / 3.3	TSI_DATA7	15
37	TSI_VALID	0 / 3.3	TSI_VALID	14
38	TSI_SYNC	0 / 3.3	TSI_SYNC	13
39	GND	0	GND	12
40	TSI_CLK	0 / 3.3	TSI_CLK	11
41	GND	0	GND	10
42	FE_TS_SEL	0	FE_TS_SEL	9
43	EMG_DDC	3.8	EMG_DDC	8
44	DD_RST	0	DD_RST	7
45	FE2_RST	3.3	FE2_RST	6
46	FE2_INT	3.0	FE2_INT	5
47	GND	0	GND	4
48	I2C2_SDA	3.3	I2C2_SDA	3
49	I2C2_SCL	3.3	I2C2_SCL	2
50	GND	0	GND	1

IO_AUDIO Assy**CARD Assy**

IO6 CN7506 (AKM1385- -TBB)		Voltage (V)	C14 CN9602 (AKM1388- -TBB)	
NO.	Name		Name	No.
1	V+3_4V_STB	3.4	V+3_4V_STB	12
2	PC_HD	0 / 3.4	PC_HD	11
3	PC_VD	0 / 3.4	PC_VD	10
4	GND	0	GND	9
5	PC_R	0 / 0.7	PC_R	8
6	GND	0	GND	7
7	PC_B	0 / 0.7	PC_B	6
8	GND	0	GND	5
9	PC_G	0 / 0.7	PC_G	4
10	WP_EDID	0	WP_EDID	3
11	V+5V_IO	5.0	V+5V_IO	2
12	SPDIF_ADSP	3.1	SPDIF_ADSP	1

IO_AUDIO Assy**SIDE IO Assy**

IO5 CN7505 (AKM1371-)		Voltage (V)	S1 CN8601 (AKM1438-)	
NO.	Name		Name	No.
1	HP_PLUG	0	HP_PLUG	1
2	GND	0	GND	2
3	SIDE_R	-0.2 / 0.2	SIDE_R	3
4	GND	0	GND	4
5	SIDE_L	-0.2 / 0.2	SIDE_L	5
6	GND	0	GND	6
7	HP_R	2.0 / 2.3	HP_R	7
8	GND	0	GND	8
9	HP_L	2.0 / 2.3	HP_L	9
10	GND	0	GND	10
11	SIDE_V	-0.3 / 0.9	SIDE_V	11

IO_AUDIO Assy**POWER SUPPLY UNIT**

IO2 CN7502 (B5P-VH)		Voltage (V)	P5 ---- (B5P-VH)	
NO.	Name		Name	No.
1	V+17V	17	V+17V	1
2	V+17V	17	V+17V	2
3	GND	0	GND-D	3
4	GND	0	GND-D	4
5	GND	0	GND-D	5

1

2

3

4

A

B

C

D

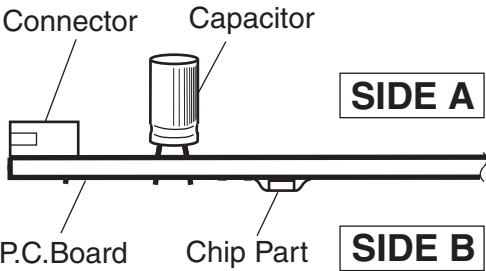
E

F

- NOTE FOR PCB DIAGRAMS :**
- 1. Part numbers in PCB diagrams match those in the schematic diagrams.
 - 2. A comparison between the main parts of PCB and schematic diagrams is shown below.

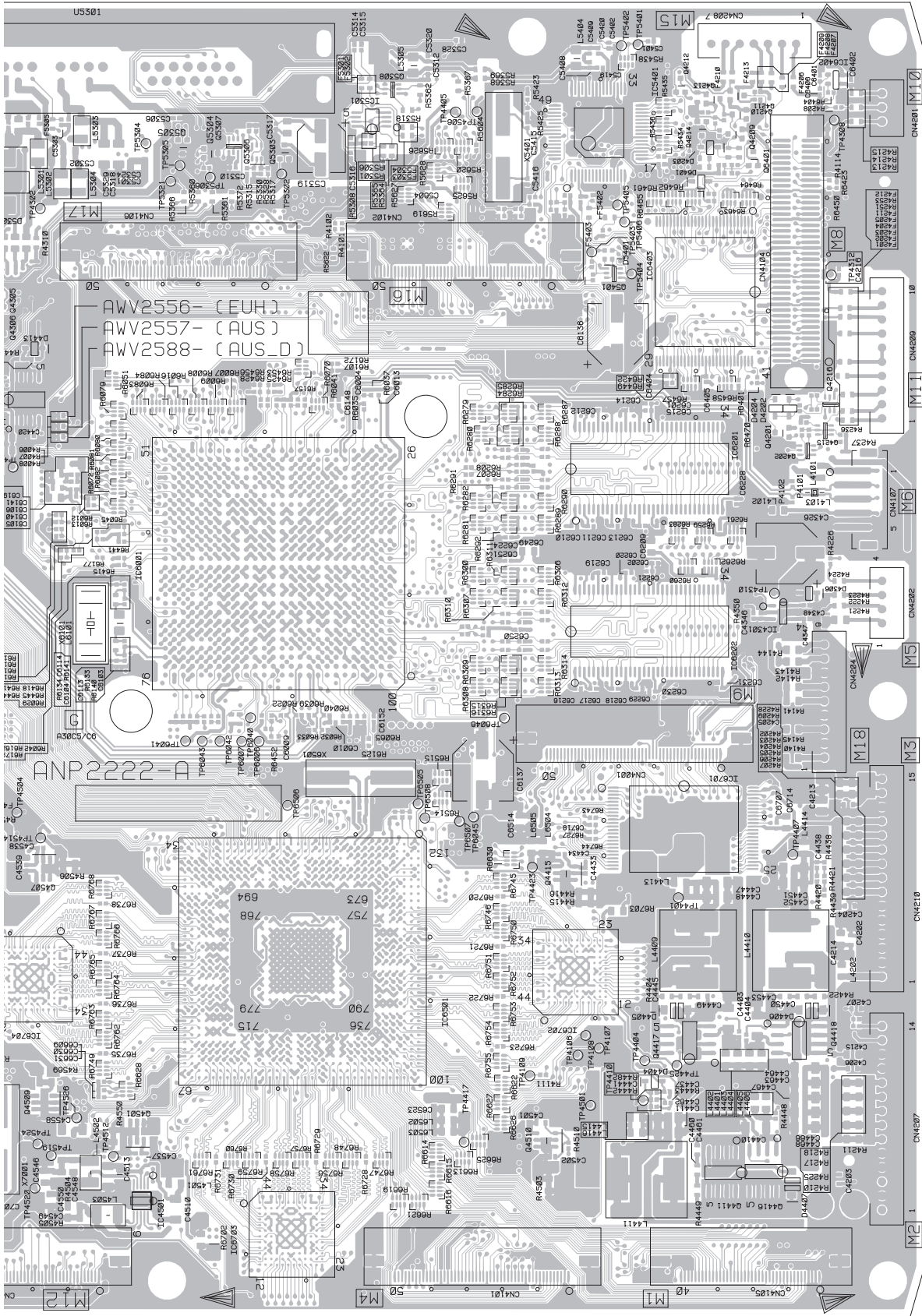
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

- 3. The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.
- 4. View point of PCB diagrams.



SIDE A

PDP-LX5090H



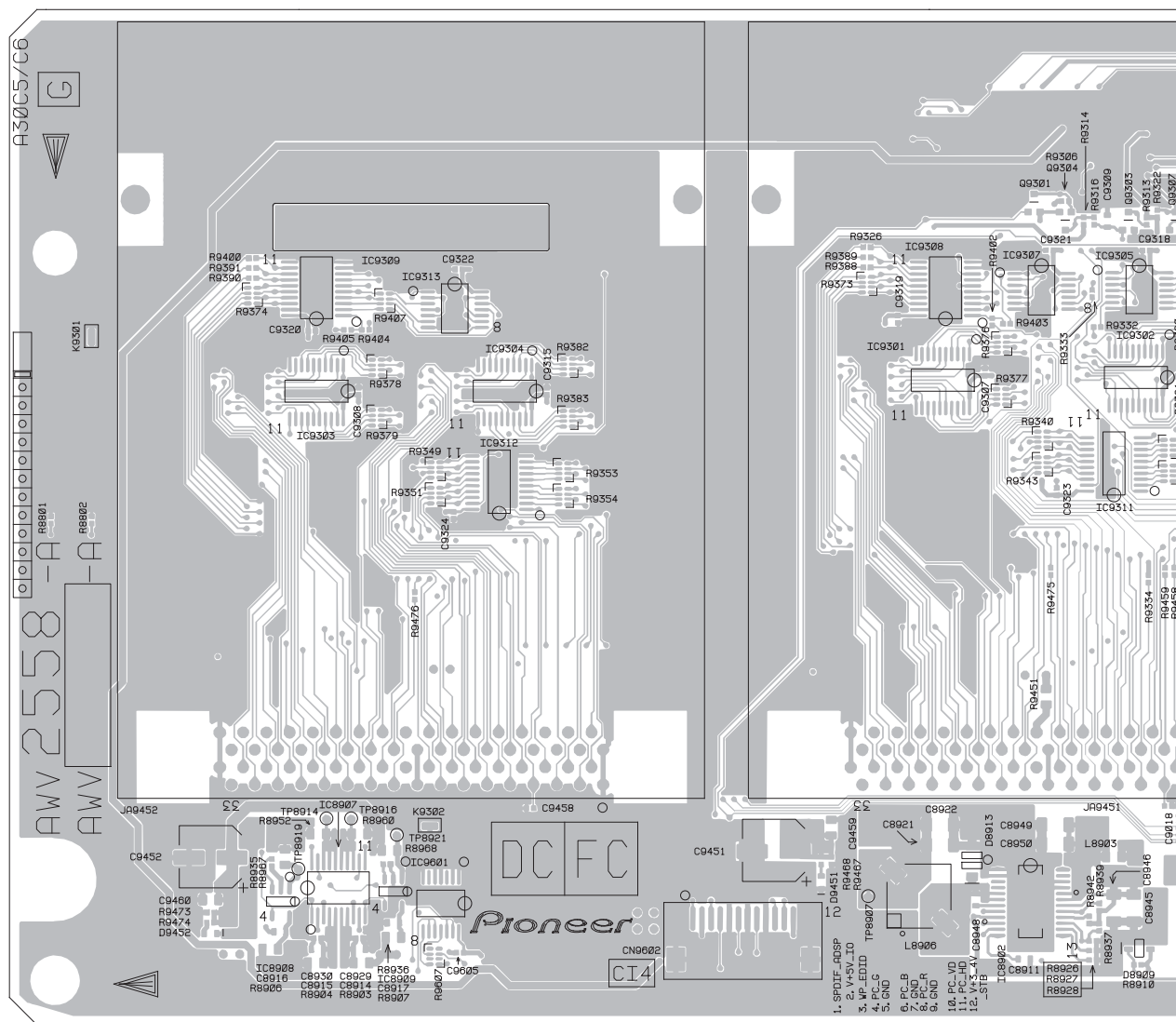
(ANP2222-A)



8.2 CARD ASSY

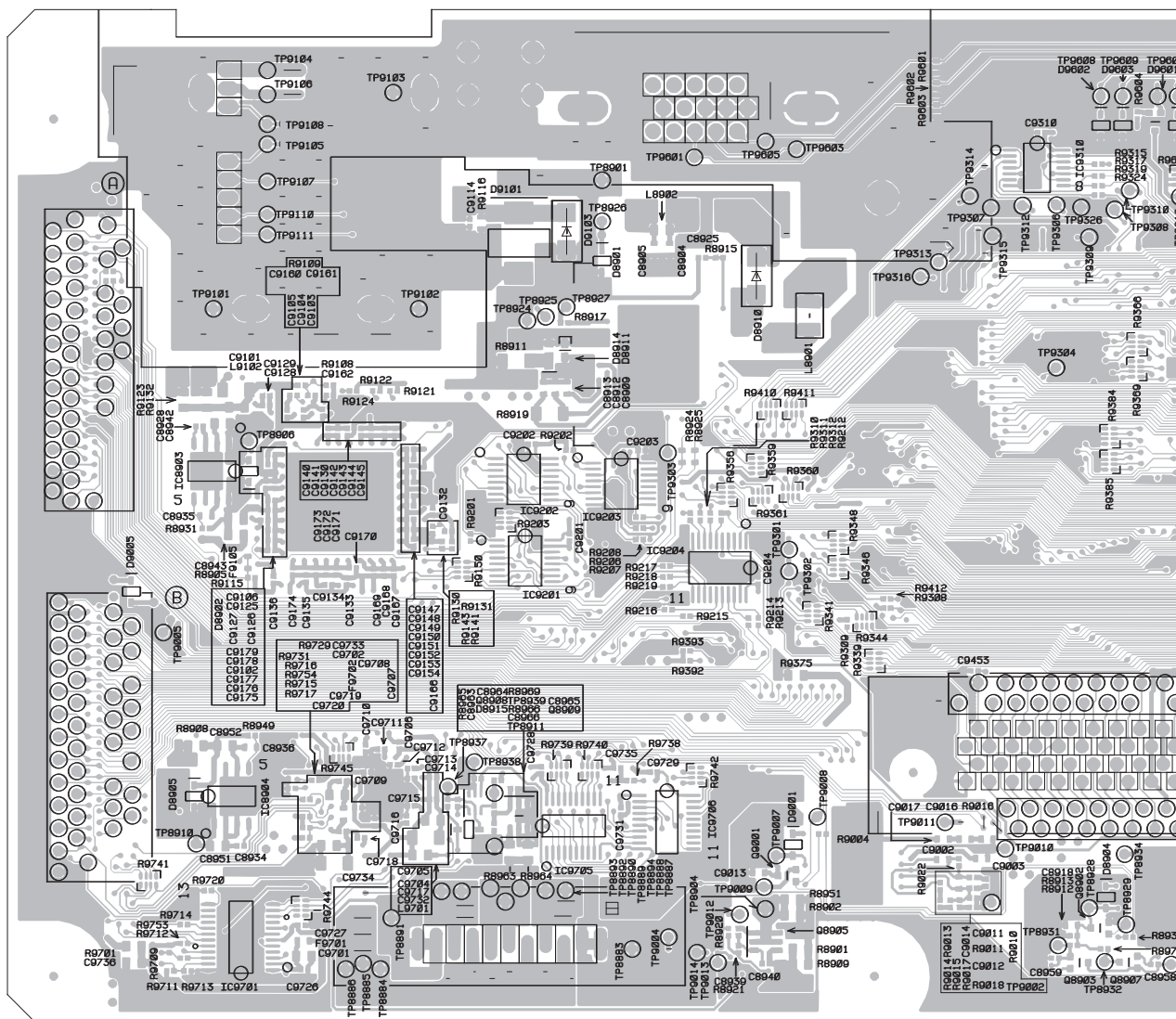
SIDE A

CARD ASSY



SIDE B

CARD ASSY



9. PCB PARTS LIST

NOTES: ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.

● The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

● When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47 k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω → 56 × 10¹ → 561 RD1/4PU 5 6 1 J

47 kΩ → 47 × 10³ → 473 RD1/4PU 4 7 3 J

0.5 Ω → R50 RN2H R 5 0 K

1 Ω → 1R0 RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62 kΩ → 562 × 10¹ → 5621 RN1/4PC 5 6 2 1 F

● Meaning of the figures and others in the parentheses in the parts list.

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

IC 301 (A, 91, 111) IC NJM2068V

Mark No. Description Part No.

LIST OF ASSEMBLIES

NSP	1..P.CHASSIS(509FE)ASSY	AWU1297
NSP	2..50F ADDRESS ASSY	AWV2544
NSP	3..50F ADDRESS L ASSY	AWW1348
NSP	3..50F ADDRESS S ASSY	AWW1349
NSP	2..50F SCAN ASSY	AWV2548
NSP	3..50F SCAN A ASSY	AWW1350
NSP	3..50F SCAN B ASS'Y	AWW1351
NSP	1..50F DIGITAL ASSY	AWV2543
	2..SENSOR ASSY	AWW1340
	2..50F DIGITAL ASSY	AWW1347
	1..50F X DRIVE ASSY	AWV2546
	1..50F Y DRIVE ASSY	AWV2547
⚠ NSP	1..FUKUGO ASSY(EU HD)	AWV2552
	2..IO AUDIO ASSY(EU SD)	AWW1354
	2..SIDE IO ASSY(EU)	AWW1358
	2..SIDE KEY ASSY	AWW1361
	2..LED ASSY	AWW1362
	2..IR ASSY	AWW1363
	2..FAN CONNECT ASSY	AWW1364
	2..RLS ASSY	AWW1365
	2..POWER SW ASSY	AWW1366
⚠	1..MAIN ASSY (EU HD)	AWV2556
	1..CARD ASSY (EU HD)	AWV2558
⚠	1..POWER SUPPLY UNIT	AXY1200

Mark No. Description Part No.

Unit Name: 50F ADDRESS L ASSY

SEMICONDUCTORS

IC	1601	PEE005B
IC	1701	TND307TD
Q	1711,1721,1731,1741	RJM1001DSP
Q	1791	RN1901
Q	1792	2SA1576A
D	1701	1SS302
D	1711,1721,1731,1741	UDZS15(B)
D	1712,1722,1732,1742	RF05VA2S
D	1713,1714,1723,1724	RF04UA2D
D	1733,1734,1743,1744	RF04UA2D

MISCELLANEOUS

L	1601-1603 CHIP SOLID INDUCTOR	QTL1013
L	1711,1721,1731,1741 INDUCTOR (1.2 uH)	ATH1233
CN	1601 CONNECTOR	AKM1289
CN	1602 26P CONNECTOR	AKM1397

RESISTORS

R	1601-1605	RS1/16SS1000F
R	1606-1629,1632,1638	RS1/16SS470J
R	1630,1631,1634,1640	RS1/16SS220J
R	1636	RS1/16SS330J
R	1641,1644,1646	RS1/16SS220J
R	1642,1648	RS1/16SS470J
R	1650	RS1/16SS472J
R	1652,1653,1662,1663	RS1/16SS0R0J
R	1672,1673,1682,1683	RS1/16SS0R0J
	Other Resistors	RS1/10SR###J

CAPACITORS

C	1602,1607,1609	CKSRYB105K6R3
C	1603-1606	CKSRYB104K16
C	1611	CKSSYB102K50
C	1652,1662,1672,1682	ACG1105
C	1653,1663,1673,1683	CKSSYB104K10
C	1654,1674	CCSSCH680J50
C	1664,1684	CCSSCH220J50
C	1701	CKSQYB105K16
C	1702	ACG1154
C	1711,1721,1731,1741	ACG1137
C	1712,1722,1732,1742	ACG1123

5			7			8		
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.	
Unit Name: 50F ADDRESS S ASSY				Unit Name: 50F SCAN B ASSY				
SEMICONDUCTORS				SEMICONDUCTORS				
IC	1801		PEE005B	C	2825,2834,2835,2844		CCSRCH151J50	
IC	1901		TND307TD	C	2830-2832,2840-2842		CCSRCH220J50	
Q	1911,1921,1931		RJM1001DSP	C	2845,2854,2855,2864		CCSRCH151J50	
Q	1991		RN1901	C	2850-2852,2860-2862		CCSRCH220J50	
Q	1992		2SA1576A	C	2853,2863,2873,2883		CCSRCH680J50	
D	1901		1SS302	C	2857,2867,2877,2887		CKSRYB105K6R3	
D	1911,1921,1931		UDZS15(B)	C	2858,2868,2878,2888		ACG1125	
D	1912,1922,1932		RF05VA2S	C	2865,2874,2875,2884		CCSRCH151J50	
D	1913,1914,1923,1924		RF04UA2D	C	2870-2872,2880-2882		CCSRCH220J50	
D	1933,1934		RF04UA2D	C	2885		CCSRCH151J50	
MISCELLANEOUS				SEMICONDUCTORS				
L	1801-1803 CHIP SOLID INDUCTOR		QTL1013	IC	2901-2908		AN16184A	
L	1911,1921,1931 INDUCTOR (1.2 uH)		ATH1233	D	2900-2905		MC2850-11	
CN	1801 CONNECTOR		AKM1289	D	2995		RB551V-30	
CN	1802 26P CONNECTOR		AKM1397	MISCELLANEOUS				
RESISTORS				CN	2901 3PIECE CONNECTOR 15P		AKP1328	
R	1801-1805		RS1/16SS1000F	RESISTORS				
R	1806-1823,1832,1836		RS1/16SS470J	R	2912,2922,2932,2942		RAB4C221J	
R	1830,1831,1840,1841		RS1/16SS220J	R	2952,2962,2972,2982		RAB4C221J	
R	1834,1844,1846		RS1/16SS330J	Other Resistors				
R	1842		RS1/16SS470J				RS1/10SR###J	
R	1850		RS1/16SS472J	CAPACITORS				
R	1852,1853,1862,1863		RS1/16SS0R0J	C	2911,2912,2916,2921		CCSRCH220J50	
R	1872,1873		RS1/16SS0R0J	C	2913,2923,2933,2943		CCSRCH680J50	
Other Resistors			RS1/10SR###J	C	2914,2915,2924,2925		CCSRCH151J50	
CAPACITORS				C	2917,2927,2937,2947		CKSRYB105K6R3	
C	1802,1807,1809		CKSRYB105K6R3	C	2918,2928,2938,2948		ACG1125	
C	1803-1806		CKSRYB104K16	C	2922,2926,2931,2932		CCSRCH220J50	
C	1811		CKSSYB102K50	C	2934,2935,2944,2945		CCSRCH151J50	
C	1852,1862,1872		ACG1105	C	2936,2941,2942,2946		CCSRCH220J50	
C	1853,1863,1873		CKSSYB104K10	C	2951,2952,2956,2961		CCSRCH220J50	
C	1854,1874		CCSSCH220J50	C	2953,2963,2973,2983		CCSRCH680J50	
C	1864		CCSSCH680J50	C	2954,2955,2964,2965		CCSRCH151J50	
C	1901		CKSQYB105K16	C	2957,2967,2977,2987		CKSRYB105K6R3	
C	1902		ACG1154	C	2958,2968,2978,2988		ACG1125	
C	1911,1921,1931		ACG1137	C	2962,2966,2971,2972		CCSRCH220J50	
C	1912,1922,1932		ACG1123	C	2974,2975,2984-2986		CCSRCH151J50	
Unit Name: 50F SCAN A ASSY				C	2976,2981,2982		CCSRCH220J50	
SEMICONDUCTORS				Unit Name: SENSOR ASSY				
IC	2801-2808		AN16184A	SEMICONDUCTORS				
D	2800-2805		MC2850-11	IC	3901		MM1522XU	
D	2895		RB551V-30	IC	3902		BR24L02FJ-W	
MISCELLANEOUS				Q	3901		HN1B04FU	
CN	2801 3PIECE CONNECTOR 15P		AKP1328	MISCELLANEOUS				
RESISTORS				CN	3901 5PIN CONNECTOR		AKM1404	
R	2812,2822,2832,2842		RAB4C221J	RESISTORS				
R	2852,2862,2872,2882		RAB4C221J	All Resistors				
Other Resistors			RS1/10SR###J				RS1/16SS###J	
CAPACITORS				CAPACITORS				
C	2810,2814,2815,2824		CCSRCH151J50	C	3901,3902		CKSRYB105K6R3	
C	2811,2812,2820-2822		CCSRCH220J50	C	3905,3906		CKSSYB104K10	
C	2813,2823,2833,2843		CCSRCH680J50	Unit Name: 50F DIGITAL ASSY				
C	2817,2827,2837,2847		CKSRYB105K6R3	MISCELLANEOUS				
C	2818,2828,2838,2848		ACG1125	3202	HEAT SINK B		ANH1645	
				3203	THERMAL SHEET B		AEB1417	
				PDP-LX5090H				
				153				

Mark No. Description
Block Name: MAIN I/F BLOCK

SEMICONDUCTORS

Q 3201

RN1901

MISCELLANEOUS

△ L 3201 CHIP BEEDS FILTER
CN 3201 50P CONNECTOR
CN 3202 40P CONNECTOR
CN 3203 6PIN CONNECTOR

BTX1042
AKM1399
AKM1398
AKM1405

RESISTORS

R 3201-3207,3211-3218
Other Resistors

RAB4CQ100J
RS1/16SS###J

CAPACITORS

C 3201
C 3202
C 3203

ACG1150
CKSSYB102K50
CCSSCH101J50

Block Name: SQ ASIC BLOCK

SEMICONDUCTORS

IC 3301
IC 3303
IC 3304

PEG383B
TC7SH08FUS1
TC7SH32FUS1

MISCELLANEOUS

△ L 3301,3302 CHIP BEEDS FILTER
△ L 3303 CHIP BEEDS FILTER
△ L 3304-3307 CHIP BEEDS FILTER
△ X 3301 CRYSTAL (27 MHz)
CN 3301 CONNECTOR

BTX1042
BTX1039
BTX1042
ASS1215
CKS4835

RESISTORS

R 3302,3307-3310
R 3306,3386
R 3313
R 3314-3319
R 3321-3325

RAB4CQ101J
RAB4CQ103J
RS1/16SS1000F
RAB4CQ100J
RAB4CQ470J

R 3332-3338,3344-3346
R 3351-3359,3361-3367
R 3371-3377
Other Resistors

RAB4CQ220J
RAB4CQ220J
RAB4CQ220J
RS1/16SS###J

CAPACITORS

C 3301-3306,3309,3310
C 3307,3311,3331-3334
C 3312-3330,3335,3336
C 3337
C 3338,3340

CKSSYB104K10
ACG1150
CKSSYB104K10
CCSRCH471J50
ACG1149

C 3339,3341,3342
C 3343
C 3345-3355,3357-3386
C 3356,3392
C 3387-3389

CKSSYB104K10
ACG1150
CKSSYB104K10
CCSRCH470J50
CKSRYB105K6R3

C 3390,3391,3393-3395

CKSSYB104K10

Block Name: LVDS TX BLOCK 50

SEMICONDUCTORS

IC 3401

PEG478A

MISCELLANEOUS

△ L 3401-3407 CHIP BEEDS FILTER

BTX1042

Mark No. Description

RESISTORS

R 3401
R 3497
Other Resistors

RS1/16SS5601F
RS1/10SR221J
RS1/16SS###J

CAPACITORS

C 3401,3402
C 3403-3410,3415-3420
C 3411,3413,3421,3435
C 3423-3434,3436-3442
C 3443,3499

ACG1149
CKSSYB104K10
ACG1150
CKSSYB104K10
ACG1150

C 3444-3448,3451-3457

CKSSYB104K10

Block Name: ADDRESS CN BLOCK

SEMICONDUCTORS

Q 3501,3504
Q 3502,3503,3506,3508
D 3501-3504

DTC143EUA
RN1901
DAN202U

MISCELLANEOUS

CN 3501-3508,3510 26P CONNECTOR
CN 3509 50P CONNECTOR

AKM1397
AKM1399

RESISTORS

R 3502,3504,3507
R 3503,3505
Other Resistors

RAB4CQ101J
RAB4CQ102J
RS1/16SS###J

CAPACITORS

C 3501-3508,3510-3512
C 3514,3516,3518-3520

CKSSYB102K50
CKSSYB102K50

Block Name: MODEULE UCOM BLOCK

SEMICONDUCTORS

IC 3602
IC 3604
IC 3605
IC 3607
IC 3608

BR24L04FJ-W
TC74VHC08FTS1
MB88347LPFV-GBND
TC74VHC123AFTS1
TC74VHC126FTS1

IC 3609,3610
IC 3611
Q 3602
Q 3604
D 3601-3604

TC74LCX541FTS1
PST3628UR
2SJ461A
RN1902
DAN202U

D 3606-3608,3612
D 3609,3611
D 3610

1SS352
SML-310MT
SML-D12V8W

MISCELLANEOUS

△ X 3601 CERAMIC OSCILLATOR
CN 3601 5PIN CONNECTOR
CN 3602,3603 CONNECTOR

CSS1616
AKM1418
CKS4828

RESISTORS

R 3603,3608
R 3604,3607
R 3606,3615
R 3639,3666
Other Resistors

RAB4CQ222J
RAB4CQ101J
RAB4CQ470J
RAB4CQ103J
RS1/16SS###J

CAPACITORS

C 3601,3603-3606
C 3602,3615,3635,3636
C 3608-3612,3614,3618
C 3619

CKSSYB104K10
CCSSCH101J50
CKSSYB104K10
CKSRYB103K50

5		6		7		8	
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
C	3620-3622		CKSRYB105K6R3	C	3863,3867,3883,3887		ACG1149
C	3630		CKSSYB104K10	C	3864		CCSRCH470J50
C	3631		CKSRYB472K50	C	3865		CKSRYB152K50
C	3632-3634		CKSSYB102K50	C	3868		CKSRYB103K50
Block Name: DD CON BLOCK				C	3884		CCSRCH620J50
SEMICONDUCTORS				C	3885		CKSRYB182K50
IC	3801		BD8606FV	Unit Name: 50F X DRIVE ASSY			
IC	3802		TC74VHC08FTS1	Block Name: 50X LOGIC BLOCK			
IC	3803		S-1170B18UC-OTD	SEMICONDUCTORS			
IC	3804		BD12KA5WFP	IC	1001		TC74ACT541FT
IC	3805		PST3628UR	IC	1002		TC74ACT540FT
IC	3808		PQ200WNA1ZPH	D	1002,1005-1008		1SS352
Q	3801,3803		DTC144EUA	D	1003,1051,1055		MC2848-11
Q	3802		RN1901	MISCELLANEOUS			
Q	3804		DTC143EUA	K	1008-1010 TEST PIN		AKX1061
Q	3841,3861,3881		SP8M4	VR	1002 SEMI FIXED RESISTOR		CCP1517
D	3801,3802,3882		1SS352	CN	1001 26P CONNECTOR		AKM1397
D	3841,3861,3881		RB060M-30	RESISTORS			
MISCELLANEOUS				R	1001,1003		RAB4C470J
△ L	3801 CHIP BEEDS FILTER		BTX1039	R	1002,1004,1007,1025		RAB4C472J
△ L	3841,3881 INDUCTOR (4.7 uH)		ATH1235	R	1012		RS1/8SQ0R0J
△ L	3861 INDUCTOR (5 uH)		BTH1110	Other Resistors			
CN	3801 10PIN CONNECTOR		AKM1409	CAPACITORS			
CN	3802 CONNECTOR		AKM1277	C	1001		CCSRCH331J50
FU	3801 CHIP FUSE		AEK1087	C	1003,1004		CKSRYB104K25
RESISTORS				C	1005		ACH1479
R	3801,3802		RAB4CQ101J	C	1006		CCSRCH680J50
R	3815		RS1/10SR4301D	Block Name: 50X RESONANCE BLCOK			
R	3816		RS1/10SR1301D	SEMICONDUCTORS			
R	3828		RS1/10SR2702D	IC	1101		PS9818-1(P)
R	3832		RS1/10SR221J	IC	1104,1105		TND307TD
R	3836		RS1/16SS2202F	IC	1106		PS2701A-1(LP)
R	3837,3838		RS1/16SS3901F	Q	1101		2SC2412K
R	3841,3843,3863		RS1/10SR3302D	Q	1102,1103		2SC4081
R	3844		RS1/10SR4702D	Q	1104,1105		QSZ2
R	3845		RS1/10SR2002D	Q	1108,1112,1116,1119		GT30F122
R	3861		RS1/10SR1503D	D	1101		UDZS5R6(B)
R	3862,3882		RS1/10SR3001D	D	1102		UDZS8R2(B)
R	3864,3883		RS1/10SR3902D	D	1106,1110,1123,1127		RF2001T3S
R	3865		RS1/10SR1003D	D	1113,1116,1128,1129		RF101L4S
R	3881		RS1/10SR1203D	D	1114		RF081M2S
R	3885		RS1/10SR7502D	MISCELLANEOUS			
Other Resistors			RS1/16SS###J	L	1101 INDUCTOR (85 nH)		ATH1248
CAPACITORS				L	1103 INDUCTOR (300 nH)		ATH1251
C	3801-3804,3808,3821		CKSSYB102K50	L	1105,1106 CHIP COIL (1 uH)		BTH1118
C	3805,3806		CKSSYB104K10	1101 SCREW			PMH30P080FTC
C	3807		CKSRYB472K50	RESISTORS			
C	3809		CKSRYB104K16	R	1103,1109,1144,1150		RS1/8SQ4R7J
C	3810,3811,3841,3842		ACG1150	R	1104,1110,1145,1151		RS1/8SQ103J
C	3812,3814,3824		CKSRYB105K6R3	R	1116,1118,1154		ACN1116
C	3813,3815,3843,3847		ACG1149	R	1136		RS1/10SR4702F
C	3817,3825,3826		DCH1165	R	1137		RS1/10SR1502F
C	3818		CCSSCH101J50	R	1138,1152,1153		RS1/8SQ0R0J
C	3820,3844		CCSRCH221J50	Other Resistors			
C	3845,3888		CKSRYB682K50	CAPACITORS			
C	3848		CKSRYB153K50	C	1101		ACH1478
C	3861,3862,3881,3882		ACG1150	PDP-LX5090H			

Mark No. Description

C 1102-1105
C 1106,1113,1114,1116
C 1107,1110
C 1112

Part No.

ACE1178
CKSRYB104K25
CKSQYB474K25
ACG1126

C 1115
C 1117
C 1118

ACH1406
CKSRYB104K50
CCG1186

Block Name: 50X SUS BLCOK**SEMICONDUCTORS**

IC 1204
IC 1206
IC 1207,1209
Q 1201
Q 1202
Q 1203
Q 1204,1205,1207,1208
Q 1209
Q 1212
Q 1218,1219,1221-1223

PS9818-2(P)
PQ050DNA1ZPH
TND307TD
R3007AND
DTC123TKA
2SD1664
QSZ2
DTC143EK
2SK3498
RJH3044DPP

Q 1225,1227
Q 1226
D 1201
D 1202
D 1207

QSZ2
RJH3044DPP
UDZS8R2(B)
UDZS5R6(B)
RF101L4S

D 1208,1216-1218
D 1209

1SS352
RF081M2S

MISCELLANEOUS

L 1201,1202 CHIP INDUCTOR (10 uH)
L 1205,1206 INDUCTOR (1.0 uH)
K 1201-1205 TEST PIN
KN 1201-1204,1206 GROUND PLATE
KN 1207,1211-1213 GROUND PLATE

BTH1134
ATH1186
AKX1061
ANK1949
ANK1949

KN 1215,1216 GROUND PLATE
CN 1201 CONNECTOR
CN 1205,1206 PLUG(5P)
1201 SCREW

ANK1949
B11B-EH
KM200NA5
PMH30P080FTC

RESISTORS

R 1203,1204,1210,1211
R 1205
R 1212,1290
R 1213,1247,1259,1260
R 1216

RS1/8SQ4R7J
RST1/2SP1R8J
RS1/8SQ0R0J
RS1/8SQ4R7J
ACN1127

R 1217
R 1277
Other Resistors

RST1/2SP2R2J
ACN1120
RS1/10SR###J

CAPACITORS

C 1201,1202,1271
C 1204
C 1206,1207,1228,1229
C 1210
C 1212,1213,1216,1218

ACH1478
ACH1479
CKSRYB104K25
ACH1480
CKSQYB474K25

⚠ C 1214,1215,1221
C 1219,1230,1274
⚠ C 1222,1225,1227
C 1232
C 1234,1246

ACG1139
CKSQYB474K25
CCG1186
CCSRCH221J50
CKSRYB104K25

C 1240,1241,1243
C 1244,1245
C 1258,1259,1261

ACH1424
ACH1477
ACE1178

Mark No. Description

C 1278-1280
C 1281

Part No.

CKSRYB102K50
CKSRYB103K50

Block Name: 50X OFFSET BLCOK**SEMICONDUCTORS**

IC 1301
IC 1307,1308
Q 1301-1304
D 1304,1306
D 1308,1309

PS9818-2(P)
TND307TD
R3007AND
RF101L4S
1SS302

D 1310,1311

UDZS16(B)

RESISTORS

R 1304,1308
R 1312
R 1313,1353
R 1317,1319
R 1320,1322

RS1/8SQ4R7J
ACN1108
ACN1117
RS1/8SQ101J
RS1/8SQ100J

Other Resistors

RS1/10SR###J

CAPACITORS

C 1301
C 1302,1303
C 1306
C 1310,1312

ACH1478
ACH1483
CKSQYB474K25
CKSRYB104K25

Block Name: 50X D-D BLCOK**SEMICONDUCTORS**

IC 1401,1402
IC 1403,1404
Q 1402
Q 1403,1405
Q 1404,1406

MM1431AN
BA2904FVM
2SD1898
2SD27240
2SD2568

Q 1407
Q 1408,1409
D 1401
D 1402,1407,1416,1423
D 1404,1405,1424,1425

HN1C01FU
2SC4081
1SS301
RF081M2S
1SS352

D 1406
D 1408
D 1409
D 1410

CRF03
UDZS5R6(B)
UDZS5R1(B)
MC2848-11

MISCELLANEOUS

VR 1401,1402 SEMI-FIXED VR (10 K)
T 1401 TRANSFORMER

DCP1089
ATK1166

RESISTORS

R 1402,1453
R 1403,1408,1469-1472
R 1407
R 1418,1468
R 1424,1425,1427,1428

RST1/2SP224J
RST1/2SP473J
RS1/4SA224J
RS1/8SQ0R0J
RS1/8SQ1003F

R 1431
R 1436,1446
R 1437,1447
R 1438,1448
R 1439

RS1/10SR2401F
RS1/10SR6801F
RS1/10SR1002F
RS1/10SR2202F
RS1/10SR6201F

R 1441
R 1449
R 1455,1456
Other Resistors

RS1/10SR1502F
RS1/10SR5601F
RST1/2SP100J
RS1/10SR###J

Mark	No.	Description	Part No.
CAPACITORS			
C	1401,1409		ACH1428
C	1402		ACH1480
C	1403,1422		CKSRYB103K50
C	1405		CKSQYB225K10
C	1406		ACH1464
C	1408		ACH1473
C	1410-1415,1421		CKSRYB104K25
C	1416		CKSRYB105K6R3

Unit Name: 50F Y DRIVE ASSY
Block Name: 50Y LOGIC BLOCK

SEMICONDUCTORS			
IC	2001,2002		TC74ACT541FT
IC	2004,2005		TC74ACT540FT
D	2002,2004,2006		1SS352
D	2003,2011-2015		1SS301
D	2016-2018		1SS352

MISCELLANEOUS			
K	2011,2017 TEST PIN		AKX1061
VR	2001,2002 SEMI FIXED RESISTOR		CCP1517
CN	2001 50P CONNECTOR		AKM1399

RESISTORS			
R	2001,2002		RAB4C220J
R	2003,2004,2007,2009		RAB4C470J
R	2005,2006,2008,2010		RAB4C472J
R	2011,2012		RAB4C470J
R	2013,2014		RAB4C472J
R	2015,2016		RAB4C101J
Other Resistors			RS1/10SR###J

CAPACITORS			
C	2001		ACH1479
C	2003		CCSRCH680J50
C	2004-2006,2009		CKSRYB104K25
C	2007,2008		CCSRCH331J50

Block Name: 50Y RESONANCE BLCOK

SEMICONDUCTORS			
IC	2101		PS9818-1(P)
IC	2102		PS2701A-1(LP)
IC	2103,2104		TND307TD
Q	2101		2SC2412K
Q	2102,2103		2SC4081

Q	2104,2105		QSZ2
Q	2106-2109		RJP6065DPN
Q	2111,2113		RG4030CLX
D	2101		UDZS5R6(B)
D	2102		UDZS8R2(B)
D	2104,2105		RF2001T4S
D	2106,2107		RF2001T6S
D	2112,2113		RF2L6S
D	2115,2116		RF101L4S
D	2117		RF081M2S

MISCELLANEOUS			
L	2101 INDUCTOR (85 nH)		ATH1248
L	2103 INDUCTOR (300 nH)		ATH1251
L	2105,2106 CHIP COIL (1 uH)		BTH1118
	2104 SCREW		PMH30P080FTC

RESISTORS			
R	2101,2103,2105,2106		RS1/8SQ2R2J

Mark	No.	Description	Part No.
R	2102,2104,2110,2114		RS1/8SQ103J
R	2112,2113		RS1/8SQ2R2J
R	2115,2116		ACN1118
R	2117		ACN1116
R	2119		RST1/2SP4R7J
R	2126,2133		RS1/8SQ0R0J
R	2130		RS1/10SR4702F
R	2135		RS1/10SR1502F
Other Resistors			RS1/10SR###J

CAPACITORS			
C	2103-2105,2119		CKSRYB104K25
C	2106,2108,2109		CKSQYB474K25
C	2107		ACG1139
C	2110		ACG1113
C	2112-2115		ACE1184
C	2118		ACH1406
C	2151		ACH1478
C	2161		CKSRYB102K50

Block Name: 50Y SUS BLCOK

SEMICONDUCTORS			
IC	2201		PS9818-1(P)
IC	2203,2204		TND307TD
Q	2201		DTC143EK
Q	2202		DTC123TKA
Q	2203		2SD1664

Q	2204-2206,2208-2210		QSZ2
Q	2217-2219,2221-2223		RJH3044DPP
D	2201		UDZS8R2(B)
D	2202		UDZS5R6(B)
D	2204-2206		RF081M2S
D	2213,2221-2223		RF101L4S

MISCELLANEOUS			
	2203 SCREW		PMH30P080FTC

RESISTORS			
R	2202,2204,2206		RS1/8SQ2R2J
R	2209-2211		RS1/8SQ4R7J
R	2213		RST1/2SP1R8J
R	2214,2254,2255		RS1/8SQ0R0J
R	2215		RST1/2SP4R7J

Other Resistors			RS1/10SR###J
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CAPACITORS			
C	2201,2202		ACH1478
⚠ C	2203,2207,2208		ACG1126
C	2204-2206,2210,2221		CKSQYB474K25
⚠ C	2212-2214		ACG1126
C	2216-2218,2240		CKSRYB104K25

C	2219		CCSRCH221J50
C	2222		CKSQYB474K25
C	2231-2233		CKSRYB102K50

Block Name: 50Y MSK BLCOK

SEMICONDUCTORS			
IC	2301		PS9818-2(P)
IC	2303		PQ050DNA1ZPH
IC	2304		TND307TD
Q	2301		2SD1664
Q	2302,2303		QSZ2

Mark No. Description

Q 2304,2306,2308,2309
Q 2312,2314
Q 2321-2326,2328-2331
Q 2333,2334
D 2301
D 2302
D 2304-2306

Part No.

RJK1535DPE
RJK1535DPE
R5016ANJ
R5016ANJ
UDZS5R6(B)
1SS352
RF081M2S

Mark No. Description

R 2403
R 2404
R 2406-2411
R 2412,2413

R 2414,2415
R 2417,2418
Other Resistors

Part No.

ACN1126
ACN1122
ACN1114
ACN1116

ACN1123
RS2MMF101J
RS1/10SR###J

MISCELLANEOUS

L 2301,2302 CHIP INDUCTOR (10 uH)
L 2304,2305 INDUCTOR (1.0 uH)
K 2301-2305 TEST PIN
KN 2301-2308 GROUND PLATE
KN 2310-2317 GROUND PLATE

BTH1134
ATH1186
AKX1061
ANK1949
ANK1949

CAPACITORS

C 2401-2403,2405,2406
C 2407,2408
C 2410
C 2412-2418
C 2420,2421,2424-2429
C 2433,2435-2441
C 2449-2452

ACH1427
ACH1426
ACH1427
ACH1478
CKSRYB104K25
CKSRYB104K25
CKSRYB104K25

RESISTORS

R 2302
R 2303,2305,2307,2308
R 2311,2313,2320-2325
R 2327-2330,2332,2333
R 2335

RS1/8SQ2R2J
RS1/8SQ100J
RS1/8SQ100J
RS1/8SQ100J
RST1/2SP1R0J

Block Name: 50Y SCAN BLCOK**SEMICONDUCTORS**

IC 2501,2502
IC 2503,2504
IC 2517-2520

PS9852-2(P)
PS9818-2(P)
TC74AC540FT

MISCELLANEOUS

L 2501 CHIP INDUCTOR (10 uH)
L 2502 CHIP INDUCTOR (47 uH)
CN 2501,2502 15P CONNECTOR

BTH1134
BTH1136
AKM1200

RESISTORS

All Resistors

RS1/10SR###J

CAPACITORS

C 2502
C 2503
C 2507,2508
C 2509,2515-2517,2520
C 2521,2526,2527

ACH1482
ACH1480
ACG1132
CKSRYB104K25
CKSRYB104K25

CAPACITORS

C 2301-2303
C 2305,2306
C 2307,2312
C 2308
C 2309

ACH1424
ACH1477
ACH1478
ACH1480
ACH1479

C 2314,2315
C 2316,2318
C 2319,2321,2323,2325
C 2326
C 2328

CKSQYB474K25
CCG1186
CKSRYB104K25
CKSRYB104K25
CKSYB105K16

C 2329-2331

ACE1149

Block Name: 50Y OFFSET BLCOK**SEMICONDUCTORS**

IC 2401
IC 2403,2404
IC 2407-2413
Q 2401,2402
Q 2403

PS9818-1(P)
PS9818-2(P)
TND307TD
2SK3458-ZK
2SC2412K

Q 2404,2405
Q 2410,2411,2414-2417
Q 2418
Q 2419
Q 2423,2435

2SD1664
QSZ2
2SK3301
2SK3113B-ZK
R4008AND

Q 2424,2425,2427-2429
Q 2430,2432
Q 2431
Q 2433,2434
D 2401

R5009ANJ
2SK3677-01MR
R5009ANJ
QSZ2
CRF03

D 2402-2406
D 2407,2409,2411
D 2408,2410,2412-2414
D 2415,2416,2418
D 2417

1SS302
UDZS5R6(B)
UDZS16(B)
EC8FS6
RF501B6S

Block Name: 50Y MAIN D-D BLOCK 1**SEMICONDUCTORS**

IC 2601
IC 2602,2603
IC 2604,2651
IC 2606
Q 2601,2651,2652

MR1712-7101
MM1431AN
PS2701A-1(LP)
BA2904FVM
2SC4081

Q 2604
Q 2605
Q 2606
Q 2662
Q 2663

2SC3425
2SD2568
UMH1N
2SD1898
HN1C01FU

D 2601,2612,2664
D 2602-2604,2606,2616
D 2605,2607,2609,2611
D 2608,2610
D 2613

1SS352
CRF03
RF081M2S
CRF02
RF101L4S

D 2614
D 2651,2652
D 2661
D 2662
D 2665,2666

UDZS8R2(B)
UDZS33(B)
UDZS5R6(B)
1SS301
RF081M2S

RESISTORS

R 2401

ACN1127

D 2670

UDZS18(B)

5	6	7	8	
Mark No. Description	Part No.	Mark No. Description	Part No.	
MISCELLANEOUS		MISCELLANEOUS		
VR 2602 SEMI FIXED RESISTOR	CCP1518	L 2701 CHIP COIL (100 uH)	BTH1124	
VR 2603 SEMI FIXED RESISTOR	CCP1517	VR 2702-2705 SEMI FIXED RESISTOR	CCP1517	A
T 2601 TRANSFORMER	ATK1168	T 2761 CONVERTER TRANS.	ATK1156	
T 2661 SWITCHING TRANS.	ATK1162			
RESISTORS		RESISTORS		
R 2601	RST1/2SP224J	R 2701-2704,2706-2708	RS1/4SA224J	
R 2602-2608,2626	RS1/4SA224J	R 2711,2712	RS1/4SA224J	
R 2609	RS1MMF683J	R 2713	ACN1119	
R 2610	RST1/2SP100J	R 2714,2715,2717	RST1/2SP100J	
R 2611	RS1/8SQ100J	R 2718	RS1/10SR1202F	
R 2621	RS1/10SR4702F	R 2719	RS1/10SR4702F	
R 2623	RS1/10SR4701F	R 2722,2731	RS1/10SR1501F	
R 2624	RS1/10SR1003F	R 2724-2726,2745,2756	RS1/10SR4701F	
R 2634,2643	RS1/8SQ0R0J	R 2754,2755,2757	RS1/10SR1502F	B
R 2641	RS1/10SR1502F	R 2760	RS1/8SQ0R0J	
R 2651	RS1/8SQ2202F	R 2771,2775	RS1/10SR4701F	
R 2652,2653	RS1/8SQ3302F	R 2778	ACN1132	
Other Resistors	RS1/10SR###J	Other Resistors	RS1/10SR###J	
CAPACITORS		CAPACITORS		
C 2601	CEHAT470M2A	C 2701,2761,2762	ACH1480	
C 2602,2661,2662	ACH1480	C 2702-2704,2706-2708	CKSRYB104K25	
C 2603	ACH1464	C 2705	ACH1406	
C 2605	ACG1126	C 2709	ACH1472	
C 2606	ACH1427	C 2710,2711	ACH1469	
				C
C 2607,2608	ACG1113	C 2712	ACG1142	
C 2609,2610	CKSRYB104K25	C 2713,2764,2776	CKSRYB103K50	
C 2611,2620	CKSRYB104K50	C 2714	ACG1145	
C 2612	ACH1482	C 2716,2777	CKSRYB104K25	
C 2613,2615	CCSRCH102J50	C 2763	ACH1481	
C 2614	CCSRCH101J50	C 2768	CKSQYB225K10	
C 2616,2619	ACH1425	C 2770,2771	CKSRYB105K6R3	
C 2618	ACH1360	C 2774	CKSRYB104K50	
C 2650,2653,2655	CKSRYB104K16	C 2775	BCG1069	
C 2654	CCSRCH471J50			
C 2663	CKSRYB103K50			
C 2664	CKSRYB105K6R3			
C 2666	CKSQYB225K10			
C 2667	CKSYB105K25			
C 2668	ACG1105			
Block Name: 50Y MAIN D-D BLCOK 2		Unit Name: IO AUDIO ASSY(EU SD)		D
		Block Name: BOARD IF BLOCK(EU)		
SEMICONDUCTORS		SEMICONDUCTORS		
IC 2701-2703	MM1431AN	D 7605,7606	UDZS8R2(B)	
IC 2704-2706	BA2904FVM	D 7611	UDZS5R1(B)	
IC 2761	PS2701A-1(LP)			
Q 2701	2SA1163			
Q 2702-2704	2SA1727			
Q 2705-2707	2SA1924			
Q 2708	2SC2412K			
Q 2709	2SA2005			
Q 2710,2764	2SD1898			
Q 2711	2SC2713			
Q 2761	2SA1576A			
Q 2762	UMH1N			
Q 2766	HN1C01FU			
D 2701,2702,2764	1SS301			
D 2703,2704,2766	1SS352			
D 2705	UDZS8R2(B)			
D 2767-2769	RF081M2S			
Block Name: 50Y MAIN D-D BLCOK 2		MISCELLANEOUS		
		CN 7501 CONNECTOR 7P	AKM1377	
		CN 7502 CONNECTOR	B5P-VH	
		CN 7503 50P CONNECTOR	AKM1399	
		CN 7504 40P CONNECTOR	AKM1398	
		CN 7505 11PIN CONNECTOR	AKM1371	
				E
		CN 7506 FFC CONNECTOR 12P	AKM1385	
		RESISTORS		
		R 7601,7602,7609	RS1/10SR0R0J	
		R 7611,7631-7633	RS1/10SR75R0F	
		R 7634	RS1/10SR1500F	
		Other Resistors	RS1/16SS###J	
		CAPACITORS		
		C 7605,7606,7611	CKSRYB105K10	
		C 7609	CKSSYB104K10	
		Block Name: IO 0 BLOCK(EU)		F
		SEMICONDUCTORS		
		Q 7702-7704	UMD2N	

Mark No. Description**Part No.****Mark No. Description****Part No.**

Q 7705-7708
Q 7709
D 7701,7704,7705,7711
D 7702,7703,7707-7710

2SC4081
HN1C01FU
UDZS12(B)
UDZS5R1(B)

C 7833,7834
C 7871-7873
C 7891

CKSSYB102K50
CKSSYB471K50
CKSSYB103K16

Block Name: POWER SUB BLOCK(EU)**SEMICONDUCTORS**

IC 7901
IC 7911
IC 7951
IC 7961
D 7901,7911,7951,7961

NJM2846DL3-05
PQ200WNA1ZPH
NJM2846DL3-18
NJM78M12DL1A
1SS352

RESISTORS

R 7914
R 7915
Other Resistors

RS1/16SS4701F
RS1/16SS1501F
RS1/16SS###J

CAPACITORS

C 7901,7951
C 7902,7952
C 7911,7914
C 7961,7963
C 7962

CKSRYB105K10
DCH1201
DCH1165
CEHVAW330M25
CKSRYB104K25

C 7964

CKSSYB682K25

Block Name: AV SW BLOCK(EU)**SEMICONDUCTORS**

IC 8001
Q 8001-8006

R2S11006FT
2SA1576A

MISCELLANEOUS

L 8001-8003 CHIP BEEDS FILTER

BTX1042

RESISTORS

R 8002
R 8019,8024,8052,8057
R 8064,8069
Other Resistors

RS1/8SQ0R0J
RS1/10SR510J
RS1/10SR510J
RS1/16SS###J

CAPACITORS

C 8002-8005,8007-8012
C 8006,8025,8029
C 8014,8019,8020,8022
C 8015-8017,8021,8023
C 8024,8026,8028,8030

CKSRYB105K10
CKSSYF104Z16
DCH1201
CKSSYB104K10
DCH1201

C 8031

DCH1201

Block Name: RGB SW BLOCK(EU)**SEMICONDUCTORS**

IC 8101
Q 8101
Q 8102,8103
Q 8104

R2S11001FT
2SA1576A
HN1B04FU
HN1C01FU

MISCELLANEOUS

L 8101 CHIP BEEDS FILTER

BTX1042

RESISTORS

R 8136-8138
R 8149-8151
R 8159
R 8160
Other Resistors

RS1/16SS8201F
RS1/16SS6801F
RAB4CQ101J
RAB4CQ0R0J
RS1/16SS###J

MISCELLANEOUS

JA 7701-7703 RGB CONNECTOR

AKP1331

RESISTORS

R 7701-7703,7705
R 7704,7706,7710
R 7707-7709
R 7719,7733-7736,7746
R 7748,7760,7762,7763

RS1/10SR151J
RS1/10SR121J
RS1/10SR151J
RS1/10SR75R0F
RS1/10SR75R0F

Other Resistors

RS1/16SS###J

CAPACITORS

C 7701-7706
C 7707-7709,7712-7716
C 7717,7722
C 7718-7721,7723,7724
C 7725-7727,7729-7736

CCG1205
CKSSYB102K50
CCSSCH680J50
CKSSYB102K50
CKSRYB105K10

C 7728,7739,7740
C 7737,7742
C 7738,7741,7743,7744
C 7745-7747

CCSRCH101J50
CKSSYB103K16
CKSRYB105K10
ACH1454

Block Name: IO 1 BLOCK(EU)**SEMICONDUCTORS**

IC 7851
Q 7816,7821,7822
Q 7817,7823
Q 7891
D 7851

MAX3232CPW
2SD2114K
UMD2N
HN1B04FU
1SS301

TH 7891

TH05-3H103F

MISCELLANEOUS

L 7882 CHIP COIL (10 uH)
△ F 7811-7813,7871-7874 INDUCTOR
JA 7802 JACK
JA 7803 2P VERTICAL PIN JACK
JA 7804 3P PINJACK VERTICAL

BTH1103
CTF1557
VKN1449
AKB1331
AKB1354

JA 7805 3P VERTICAL PINJACK
JA 7851 9P D-SUB SOCKET
JA 7871 4POLE MINI JACK
JA 7881 VERT OPT.LINK OUT

AKB1332
AKP1329
AKN1081
AKN1082

RESISTORS

R 7801-7803
R 7827,7828
R 7860
R 7891
Other Resistors

RS1/10SR75R0F
RS1/10SR221J
RAB4CQ101J
RS1/10SR4701F
RS1/16SS###J

CAPACITORS

C 7801-7803,7811,7812
C 7805,7851-7855,7892
C 7813,7814
C 7818,7823,7824
C 7821,7822

CKSRYB105K10
CKSSYB104K10
CKSRYB102K50
CKSSYB471K50
CCG1205

C 7831,7832,7881

CKSRYB105K10

Mark No. Description

CAPACITORS

C 8101,8104
C 8102,8103
C 8108-8110,8140-8142
C 8111-8124
C 8125-8127

C 8128,8134
C 8129,8132
C 8130,8131,8133
C 8135-8139

Part No.

CKSRYB474K10
CCSSCH680J50
CKSRYB105K10
CKSSYB103K16
CCSSCH221J50

DCH1201
CCG1205
CKSSYB104K10
CKSSYB104K10

Block Name: MSP BLOCK(EU)

SEMICONDUCTORS

IC 8201
IC 8311,8331,8351
IC 8371
Q 8266
Q 8301

Q 8371

MSP5651M-QK-C3
NJM4565V
BH3544F
DTC124EUA
HN1A01FU

2SC4081

MISCELLANEOUS

△ X 8201 CRYSTAL (20.25 MHz)

ASS1217

RESISTORS

R 8218
R 8391-8393
Other Resistors

RAB4CQ471J
RS1/8SQ0R0J
RS1/16SS###J

CAPACITORS

C 8215,8216,8241
C 8217,8261,8264,8265
C 8235-8238
C 8242,8245,8247,8252
C 8243,8246,8248,8255

CKSSYB473K16
CCSSCH560J50
CCG1205
CKSSYB103K16
DCH1201

C 8251,8253,8311,8312
C 8254,8256,8259,8263
C 8257,8258
C 8260,8262,8271,8275
C 8270,8272,8273,8276

DCH1165
CKSSYB103K16
CCSSCH120J50
DCH1201
CKSSYB103K16

C 8277,8279,8286,8288
C 8278,8280,8285,8287
C 8301,8302,8313
C 8321,8322,8341,8342
C 8323,8324,8343,8344

DCH1201
CKSSYB103K16
CKSSYB102K50
DCH1201
CCSSCH150J50

C 8331,8332
C 8333
C 8351,8352,8355,8356
C 8360,8362,8378
C 8361,8363,8377

DCH1165
CKSSYB682K25
CKSSYB472K16
DCH1201
CKSSYB104K10

C 8371,8372,8380
C 8379

CKSRYB105K10
ACH1465

Block Name: D-AMP BLOCK

SEMICONDUCTORS

IC 8401
Q 8485,8486
Q 8488
D 8401
D 8551-8554

TAS5122DCA
2SA1576A
DTC124EUA
UDZS3R6(B)
UDZS30(B)

MISCELLANEOUS

L 8451,8452 INDUCTOR (10 uH)

ATH1252

Mark No. Description

△ F 8551,8552 COMMON MODE FILTER
JA 8551 SPEAKER TERMINAL 4P

Part No.

ATF1224
AKE1065

RESISTORS

R 8401-8404,8409-8412
R 8405-8408
R 8421-8424,8445
R 8433
R 8434,8481-8487

ACN1269
ACN1276
RS1/16SS0R0J
RS1/16SS101J
RS1/16SS103J

R 8436
R 8437
Other Resistors

RS1/16SS183J
RS1/16SS472J
RS1/10SR###J

CAPACITORS

C 8401-8408
C 8409-8416
C 8417-8424
C 8431,8432
C 8433,8434,8443-8446

CKSRYB224K16
CKSRYB681K50
CKSRYB683K16
BCG1060
CKSRYB104K25

C 8441,8442
C 8451-8454
C 8455,8456
C 8457-8464
C 8487

CEHAZL152M25-P35
CFLA104J50
CFLA474J50
CKSRYB223K50
ACH1338

C 8541,8542
C 8555-8558
C 8561-8564
C 8571-8578

CEHAT1R0M50
CKSRYB682K50
CKSRYF104Z50
CCSRCH221J50

Unit Name: SIDE IO ASSY(EU)

MISCELLANEOUS

JA 8601 PIN JACK(3P)
JA 8602 JACK
CN 8601 11PIN CONNECTOR
8603 SCREW TERMINAL

AKB1303
AKN1083
AKM1438
VNE1949

RESISTORS

R 8601,8602
R 8693
Other Resistors

RST1/2SP120J
RS1/10SR0R0J
RS1/16SS###J

CAPACITORS

C 8601,8602
C 8603,8604

ACH1454
CKSSYB102K50

Unit Name: SIDE KEY ASSY

MISCELLANEOUS

△ L 8701-8704 CHIP SOLID INDUCTOR
S 8701-8706 PUSH SWITCH
CN 8701 4PIN CONNECTOR

QTL1013
CSG1155
AKM1431

RESISTORS

All Resistors

RS1/16SS###J

CAPACITORS

C 8701

CKSSYB104K10

Unit Name: LED ASSY

SEMICONDUCTORS

D 8721
D 8722
D 8723

SMLE12BC7T(NP)
TLRV1022
SML-511DW(QR)

Mark No. Description**Part No.****Mark No. Description****Part No.****MISCELLANEOUS**

CN 8721 6PIN CONNECTOR

AKM1425

Unit Name: POWER SW ASSY**MISCELLANEOUS**

S 8776 PUSH SW

ASG1102

CN 8776 3PIN CONNECTOR

AKM1363

Unit Name: MAIN ASSY(EU HD)**MISCELLANEOUS**

4000 HEAT SINK-A

ANH1717

4000 THERMAL SHEET B

AEB1417

Block Name: BOARD IF 0 BLOCK(EH)**SEMICONDUCTORS**

Q 4001

2SA1576A

D 4001,4002

1SS352

D 4003-4008

1SS301

MISCELLANEOUS

CN 4001,4003 50P CONNECTOR

AKM1399

CN 4004 40P CONNECTOR

AKM1398

CN 4005 CONNECTOR 7P

AKP1320

RESISTORS

R 4006

RS1/10SR0R0J

R 4009-4011,4014,4015

RAB4CQ220J

R 4013,4016

RAB4CQ101J

R 4020-4023

RAB4CQ220J

Other Resistors

RS1/16SS###J

CAPACITORS

C 4003

ACH1421

C 4004-4008

CKSRYB104K16

Block Name: BOARD IF 0 BLOCK(EH)**SEMICONDUCTORS**

D 4101

1SS301

MISCELLANEOUS

△ L 4101,4102 CHIP BEEDS FILTER

BTX1042

F 4101-4104 FERRITE CORE

VTF1091

CN 4101,4102,4106 50P CONNECTOR

AKM1399

CN 4104 80P CONNECTOR RCPT

BKP1159

CN 4105 40P CONNECTOR

AKM1398

CN 4107 CONNECTOR

AKM1276

RESISTORS

R 4112,4113

RAB4CQ101J

Other Resistors

RS1/16SS###J

Block Name: BOARD IF 2 BLOCK(EH)**SEMICONDUCTORS**

Q 4201,4205-4207,4211

DTC124EUA

Q 4202

RN1902

Q 4215

HN1A01FU

Q 4216

RN2902

Q 4217

DTC124EUA

D 4202,4204

1SS352

MISCELLANEOUS

L 4202 CHIP BEEDS FILTER

BTX1039

△ F 4201-4212 INDUCTOR

CTF1557

CN 4202 PLUG(4P)

KM200NA4

Unit Name: IR ASSY**SEMICONDUCTORS**

Q 8751

2SA1576A

D 8751

DAN217U

MISCELLANEOUS

△ F 8751,8752 INDUCTOR

CTF1557

CN 8751 CONNECTOR

AKM1289

U 8751 REMOTE RECEIVER UNIT

GP1UE28QK0VF

RESISTORS

R 8753

RS1/10SR0R0J

R 8755

RS1/10SR470J

Other Resistors

RS1/16SS###J

CAPACITORS

C 8751

CEVW470M6R3

C 8752

CKSSYB104K10

C 8753

CKSSYB102K50

C 8754

CKSRYB103K50

C 8755

CCSRCH101J50

Unit Name: FAN CONNECT ASSY**SEMICONDUCTORS**

Q 8761,8762

DTC124EUA

D 8761,8762

1SS301

MISCELLANEOUS

CN 8761 PLUG(4P)

KM200NA4

CN 8762 PLUG(6P)

KM200NA6

CN 8763 PLUG(7P)

KM200NA7

RESISTORS

All Resistors

RS1/16SS###J

Unit Name: RLS ASSY**SEMICONDUCTORS**

IC 8736

MM3012XN

IC 8737

AMS124YD01

MISCELLANEOUS

△ F 8736-8738 INDUCTOR

CTF1557

CN 8736 3PIN CONNECTOR

AKM1422

RESISTORS

R 8737

RS1/16SS2203F

Other Resistors

RS1/16SS###J

CAPACITORS

C 8736

CKSRYB105K10

C 8737

CKSSYB103K16

C 8738

DCH1201

C 8739,8740

CKSSYB104K10

5		6		7		8	
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	CN 4204	PLUG(9P)	KM200NA9	IC	4404		NJM2846DL3-33
	CN 4207	PLUG(14P)	KM200NA14	Q	4401,4402		UMD2N
	CN 4208	PLUG(7P)	KM200NA7	Q	4404-4407		DTC124EUA
	CN 4209	PLUG(10P)	KM200NA10				
	CN 4210	PLUG(15P)	KM200NA15	Q	4408		2SC4081
				Q	4409,4410		DTA124EUA
				Q	4411		RSS100N03
				Q	4412,4415		RTQ045N03
				Q	4413		UPA1917TE
				Q	4416		RSS090P03
				Q	4417,4418		SP8M4
				D	4401,4402,4410,4411		1SS352
				D	4405-4407		RB060M-30
RESISTORS				MISCELLANEOUS			
R	4140-4145,4221		RS1/8SQ0R0J	L	4401-4406 CHIP BEEDS FILTER		BTX1039
R	4222-4224,4249		RS1/10SR0R0J	L	4409-4411 INDUCTOR (2.8 uH)		ATH1243
R	4251,4253		RS1/10SR102J	L	4413-4416 CHIP BEEDS FILTER		BTX1039
	Other Resistors		RS1/16SS###J				
CAPACITORS							
C	4207		CKSRYB102K50				
C	4211		CCSSCH221J50				
C	4214		DCH1201				
C	4216		CKSSYB104K10				
Block Name: POWER 0 BLOCK(EH)							
SEMICONDUCTORS				RESISTORS			
IC	4301		R5523N001B	R	4406,4438		RS1/16SS1203D
IC	4303		PQ200WNA1ZPH	R	4407,4425-4427,4441		RS1/16SS3302D
IC	4304		MB3842PFV-G-E1	R	4421		RS1/16SS5602D
IC	4305		NJM2846DL3-05	R	4429		RS1/16SS2702D
IC	4306		BD8903FV	R	4440		RS1/16SS1002D
				R	4442		RS1/16SS3902D
Q	4304,4305		DTA143EUA	R	4444,4445		RS1/16SS3302D
Q	4307		2SA1576A	R	4488		RS1/8SQ0R0J
Q	4308		UMD2N		Other Resistors		RS1/16SS###J
Q	4309,4310		DTC124EUA				
D	4301		RB521S-40				
D	4305,4316		1SS352				
D	4306		RB551V-30				
MISCELLANEOUS							
L	4302 CHIP BEEDS FILTER		BTX1039				
L	4303 INDUCTOR (47 uH)		BTH1111				
L	4306 CHIP COIL (470 uH)		BTH1126				
RESISTORS							
R	4301,4339		RS1/8SQ0R0J				
R	4310		RS1/10SR0R0J				
R	4325		RS1/16SS3901F				
R	4326		RS1/16SS1003D				
R	4327		RS1/16SS2202F				
R	4353		RS1/16SS2201F				
R	4356		RS1/16SS5101F				
R	4357		RS1/16SS2701F				
	Other Resistors		RS1/16SS###J				
CAPACITORS							
C	4305,4308		CKSRYB105K10				
C	4306,4331		BCG1064				
C	4310,4327,4345		DCH1201				
C	4311		ACG1147				
C	4323		CEHVAW101M6R3				
C	4326		ACH1421				
C	4332,4335,4347-4349		CKSSYB104K10				
C	4338		CKSSYB473K16				
C	4350,4351		DCH1165				
Block Name: POWER 1 BLOCK(EH)							
SEMICONDUCTORS							
IC	4401,4406		MM1593DF				
IC	4402		BD8606FV				

Mark No. Description

D 4510,4511

Part No.

RB551V-30

Mark No. Description**Block Name: ADC BLOCK(EH)****Part No.****SEMICONDUCTORS**

IC 4801

AD9985KSTZ-110

MISCELLANEOUS

L 4801,4802 CHIP BEEDS FILTER

BTX1042

RESISTORS

R 4803

RS1/8SQ0R0J

R 4804

RS1/16SS2701F

R 4809-4814

RAB4CQ220J

R 4815

RAB4CQ103J

Other Resistors

RS1/16SS###J

CAPACITORS

C 4801

CKSSYB823K10

C 4802

CKSSYB822K16

C 4803-4805,4807,4809

CKSSYB104K10

C 4806,4808,4810

CKSSYB473K16

C 4811-4817

CKSSYB104K10

C 4818-4820

DCH1201

Block Name: HDMI BLOCK(EH)**SEMICONDUCTORS**

IC 4901

SII9125CTU

Q 4903

2SC4081

Q 4904-4907,4914

UMD2N

Q 4908

RN1902

Q 4910

2SA1576A

Q 4913

HN1C01FU

Q 4915

DTC124EUA

D 4901

RB520S-30

MISCELLANEOUS

L 4901-4905 CHIP SOLID INDUCTOR

QTL1013

F 4901,4902 CHIP FERRITE BEADS

ATF1211

⚠ X 4901 CRYSTAL (28.322 MHz)

ASS1226

RESISTORS

R 4901,4902

RS1/8SQ0R0J

R 4944

RAB4CQ100J

R 4945-4954

RAB4CQ220J

R 4973

RAB4CQ470J

R 4976-4979

ACN1275

Other Resistors

RS1/16SS###J

CAPACITORS

C 4901-4928,4932,4933

CKSSYB102K50

C 4929

CKSSYB103K16

C 4930,4931

CCSSCH8R0D50

C 4934,4937-4940

CKSSYB104K10

C 4936,4941,4946,4951

DCH1201

C 4942-4945,4947-4950

CKSSYB104K10

C 4952-4960

CKSSYB104K10

Block Name: HDMI SW BLOCK(EH)**SEMICONDUCTORS**

IC 5001

CXB1444R

IC 5002-5004

BR24L02FV-W

Q 5007-5009

UMD2N

Q 5011-5013

RN1902

D 5004-5006

UDZS6R8(B)

MISCELLANEOUS

L 4501 CHIP BEEDS FILTER

BTX1039

L 4502,4503 CHIP INDUCTOR (2.2 uH)

ATH1244

RESISTORS

R 4554

RS1/16SS1503D

R 4558

RS1/16SS1003D

R 4561

RS1/16SS2003D

R 4562

RS1/16SS6202D

Other Resistors

RS1/16SS###J

CAPACITORS

C 4501-4504,4508

CKSRYB104K16

C 4505,4506

CKSRYB105K10

C 4510,4513

BCG1059

C 4517

CKSSYB102K50

C 4518,4519

CCSSCH470J50

C 4521

CKSSYB103K16

C 4522,4523,4526-4528

CCSSCH101J50

C 4524

CKSRYB224K16

C 4525,4536-4539,4556

CKSSYB104K10

C 4529,4531,4548,4549

DCH1201

C 4533,4551,4555,4557

CCSSCH101J50

C 4559,4560

CKSSYB104K10

Block Name: VDEC BLOCK(EH)**SEMICONDUCTORS**

IC 4701

HY57V641620FTP-6

IC 4702

CM0048BF

Q 4701,4702

2SA1576A

MISCELLANEOUS

L 4701 CHIP BEEDS FILTER

BTX1042

L 4702,4703 COIL

LCYC6R8K2125

L 4706-4708 CHIP BEEDS FILTER

BTX1042

⚠ X 4701 CRYSTAL (28.63636 MHz)

ASS1214

RESISTORS

R 4702,4703

RS1/8SQ0R0J

R 4710,4720

RS1/16SS1500F

R 4711,4721

RS1/16SS2201F

R 4712,4722

RS1/16SS1101F

R 4713,4715,4723

RS1/16SS2701F

R 4714

RS1/16SS1001F

R 4726,4737-4745

RAB4CQ470J

R 4746-4752

RAB4CQ101J

Other Resistors

RS1/16SS###J

CAPACITORS

C 4701,4704-4711

CKSRYB105K10

C 4702,4703

CCSRCH300J50

C 4712,4718,4720

CKSSYB103K16

C 4713,4717

CCSSCH330J50

C 4714,4719

CCSSCH680J50

C 4715,4716

CKSSYB102K50

C 4721

CEHVAW101M6R3

C 4722-4736,4738-4774

CKSSYB104K10

C 4737,4793-4797

DCH1201

C 4787

CKSSYB104K10

C 4792

DCH1165

5		6		7		8	
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
MISCELLANEOUS				C	5404,5417,5419,5420		CKSSYB104K10
F	5001	CHIP SOLID INDUCTOR	DTL1041	C	5408		CCSSCJ3ROC50
JA	5001-5003	HDMI CONNECTOR(VT)	AKP1335	C	5409		CCSSCH180J50
RESISTORS				C	5411,5412		CKSSYB103K16
R	5018,5029,5050		RS1/16SS49R9F	C	5415,5416		CCSSCH8R0D50
R	5058		RS1/16SS4701F	C	5418,5421,5427,5429		CKSSYB102K50
Other Resistors			RS1/16SS###J	C	5422,5424		CCG1205
CAPACITORS				C	5423,5425,5426,5428		CKSSYB104K10
C	5001		BCG1059	C	5430		CKSSYB104K10
C	5003-5007,5009-5013		CKSSYB104K10	Block Name: COMMON IF BLOCK(EH)			
C	5014		DCH1201	SEMICONDUCTORS			
C	5015,5016,5018,5019		CKSSYB104K10	IC	5601,5602,5605,5606		TC74LCX541FTS1
Block Name: DVB T TUNER BLOCK(EH)				IC	5604		TC74LCX245FTS1
SEMICONDUCTORS				IC	5608		TC74LCX541FTS1
IC	5301		TC7W66FU	RESISTORS			
Q	5303		DTC124EUA	R	5614,5615,5617,5618		RAB4CQ151J
Q	5304,5305		2SA1576A	R	5619,5625		RAB4CQ101J
Q	5306		HN1B04FU	R	5620,5624,5626		RAB4CQ470J
Q	5307		HN1C01FU	R	5622		RS1/10SR0R0J
Q	5308		RN1902	R	5627,5628,5632,5636		RAB4CQ103J
D	5301		1.5SMC6.8A	R	5629-5631		RAB4CQ470J
MISCELLANEOUS				R	5633		RS1/8SQ0R0J
L	5301,5303,5304	CHIP COIL	BTH1121	Other Resistors			RS1/16SS###J
L	5308	CHIP BEEDS FILTER	BTX1042	CAPACITORS			
F	5301-5304	FERRITE CORE	VTF1080	C	5601-5603,5605,5606		CKSSYB104K10
F	5305	FERRITE CORE	VTF1091	C	5608		CKSSYB104K10
△ U	5301	FE	AXF1191	Block Name: VBI SLICER BLOCK(EH)			
RESISTORS				SEMICONDUCTORS			
R	5304,5307,5309		RS1/8SQ0R0J	IC	5701		TC90173FG
R	5318,5360-5362		RS1/10SR0R0J	D	5701		HSM107S-E
R	5364-5369,5372		RS1/10SR0R0J	MISCELLANEOUS			
Other Resistors			RS1/16SS###J	L	5701,5702	CHIP BEEDS FILTER	BTX1042
CAPACITORS				RESISTORS			
C	5307,5311,5324,5330		DCH1201	R	5701		RS1/8SQ0R0J
C	5309		CKSSYB104K10	Other Resistors			RS1/16SS###J
C	5316		CKSSYB103K16	CAPACITORS			
C	5319		CEHVAW101M6R3	C	5701		CKSRYB474K10
C	5322		CKSRYB682K50	C	5704		CCSSCH680J50
C	5329		BCG1064	C	5705-5712,5715-5720		CKSSYB104K10
Block Name: COFDM BLOCK(EH)				C	5714		DCH1201
SEMICONDUCTORS				Block Name: 7404 0 BLOCK(EH)			
IC	5401		DRX3975D-QI-B1	SEMICONDUCTORS			
Q	5402		UMD2N	IC	6001		BCM7404XKPB11G
MISCELLANEOUS				MISCELLANEOUS			
L	5401-5403	CHIP BEEDS FILTER	BTX1042	F	6001	FERRITE CORE	VTF1084
L	5404	CHIP COIL	LCYAR82J2520	JA	6001	RJ45 CONNECTOR TRANS	AKP1332
F	5402-5404	FERRITE CORE	VTF1091	RESISTORS			
△ X	5401	CRYSTAL RESONATOR (20 MHz)	VSS1221	R	6002-6004,6018		RS1/10SR750J
RESISTORS				R	6007-6009,6016,6045		RAB4CQ470J
R	5401		RS1/8SQ0R0J	R	6014		RS1/16SS1101F
R	5434-5436		RAB4CQ470J	R	6019		RS1/16SS1001F
R	5438		RAB4CQ471J	R	6021,6022,6039,6040		RS1/16SS49R9F
Other Resistors			RS1/16SS###J	R	6037		RS1/16SS1002F
CAPACITORS				R	6051,6071		RAB4CQ472J
C	5401,5402		CCSSCH101J50	R	6066-6069,6072		RAB4CQ470J
C	5403		CKSRYB104K16	Block Name: 7404 0 BLOCK(EH)			

Mark No. Description

R 6070
R 6073

Part No.

RAB4CQ221J
RS1/10SR75R0F

Mark No. Description

Other Resistors

Part No.

RS1/16SS###J

CAPACITORS

C 6001
C 6004
C 6008,6015,6016
C 6009-6011,6013,6014

CKSSYB102K50
CCSSCH150J50
DCH1201
CKSSYB104K10

CAPACITORS

C 6201-6204
C 6205
C 6207,6208,6210-6222
C 6209,6223,6249
C 6224-6248,6250-6253

CKSSYB471K50
BCG1059
CKSSYB104K10
DCH1201
CKSSYB104K10

Block Name: 7404 FLASH BLOCK(EH)**SEMICONDUCTORS**

IC 6401
IC 6402
D 6401

TC74VHC02FTS1
PST3628UR
1SS352

RESISTORS

R 6457-6466
R 6467
Other Resistors

RAB4CQ472J
RAB4CQ103J
RS1/16SS###J

CAPACITORS

C 6401
C 6402-6405
C 6406

CKSSYB103K16
CKSSYB104K10
CKSSYB473K16

Block Name: ARIA 0 BLOCK(EH)**SEMICONDUCTORS**

IC 6501

PD6568A

MISCELLANEOUS

L 6501-6503 CHIP BEEDS FILTER
L 6504,6505 CHIP BEEDS FILTER
L 6506-6509 INDUCTOR
⚠ X 6501 CRYSTAL (27 MHz)

BTX1042
BTX1039
LCYC1R0K1608
ASS1225

RESISTORS

R 6501-6504
R 6506
R 6514,6515
Other Resistors

RS1/10SR0R0J
RAB4CQ220J
RAB4CQ103J
RS1/16SS###J

CAPACITORS

C 6501,6504-6513,6518
C 6502,6514,6523
C 6517
C 6525-6528
C 6576

CKSSYB104K10
DCH1201
CCG1232
CKSSYB104K10
CCSSCH120J50

C 6577
C 6578,6580-6587
C 6589-6608,6610-6614

CCSSCH150J50
CKSRYB105K10
CKSRYB105K10

Block Name: ARIA 1 BLOCK(EH)**RESISTORS**

R 6602
R 6603,6604,6607
R 6609-6611
R 6613-6627,6629,6630
R 6628

RS1/8SQ0R0J
RS1/16SS2201F
RS1/16SS2201F
RAB4CQ220J
RAB4CQ121J

Other Resistors

RS1/16SS###J

CAPACITORS

C 6615
C 6616-6629
C 6634

DCH1201
CKSSYB104K10
CKSRYB105K10

Block Name: 7404 1 BLOCK(EH)**SEMICONDUCTORS**

IC 6102

LP2995M

MISCELLANEOUS

L 6101 INDUCTOR
L 6103 CHIP BEEDS FILTER
L 6111-6118 CHIP BEEDS FILTER
F 6101-6113 FERRITE CORE
⚠ X 6101 CRYSTAL RESONATOR (54 MHz)

LCTAW2R2J2520
BTX1042
BTX1042
VTF1084
BSS1134

RESISTORS

R 6133,6134
R 6156,6157
Other Resistors

RS1/10SR3010F
RAB4CQ472J
RS1/16SS###J

CAPACITORS

C 6101,6102,6180-6183
C 6103,6104
C 6105,6106,6109-6112
C 6113,6114
C 6115,6118-6120,6123

BCG1059
CCSSCH120J50
CKSSYB103K16
CCSSCH8R0D50
CKSSYB103K16

C 6116,6117,6188,6189
C 6121,6122,6125,6128
C 6124,6126,6127
C 6129,6134,6135
C 6130-6133

ACG1122
CKSSYB102K50
CKSSYB103K16
CKSSYB102K50
CKSSYB103K16

C 6136,6137
C 6139-6158,6161-6164
C 6159,6160,6165,6168
C 6166,6167,6170-6173
C 6169,6174,6175,6187

CEHVAW331M6R3
CKSSYB104K10
DCH1201
CKSSYB104K10
DCH1201

C 6176-6179,6184-6186
C 6190
C 6191,6192

CKSSYB104K10
CCG1232
CKSSYB104K10

Block Name: 7404 DDR BLOCK(EH)**SEMICONDUCTORS**

IC 6201-6204

EDD5116AFTA-5B-E

MISCELLANEOUS

L 6201,6202 CHIP BEEDS FILTER

BTX1042

RESISTORS

R 6259-6262,6283
R 6263,6267-6269
R 6264-6266,6270,6284
R 6271-6282,6286-6290
R 6285,6291-6295,6301

RAB4CQ510J
RAB4CQ220J
RAB4CQ101J
RAB4CQ220J
RAB4CQ101J

R 6296-6300,6302-6309
R 6310,6311,6315,6316
R 6312-6314

RAB4CQ220J
RAB4CQ101J
RAB4CQ220J

5	6	7	8
Mark No. Description Part No.	Mark No. Description Part No.		
Block Name: ARIA MEMORY BLOCK(EH)	F 7001 FERRITE CORE ⚠ X 7001 CRYSTAL (27 MHz)	VTF1091 ASS1225	
SEMICONDUCTORS	RESISTORS		A
IC 6702-6704 EDD1232ABBH-5C-E	R 7001 RS1/8SQ0R0J		
RESISTORS	R 7026-7028 RS1/16SS2000D		
R 6701-6703 RS1/8SQ0R0J	R 7029,7036 RS1/16SS6200D		
R 6745-6780 RAB4CQ470J	R 7033 RS1/16SS3300D		
Other Resistors RS1/16SS###J	R 7035 RS1/16SS2200D		
CAPACITORS	R 7060-7066,7068,7071 RAB4CQ680J		
C 6701-6707 CKSSYB104K10	R 7067,7070,7073,7074 RAB4CQ103J		
C 6708,6710,6712,6714 DCH1201	R 7069,7083,7084 RAB4CQ101J		
C 6718 CKSSYB103K16	R 7072 RAB4CQ221J		
C 6722-6745 CKSRYB105K10	R 7075 RAB4CQ220J		
Block Name: IF UCOM BLOCK(EH)	R 7081 RAB4CQ222J		B
SEMICONDUCTORS	R 7087-7091 RAB4CQ101J		
IC 6801 PST3628UR	Other Resistors RS1/16SS###J		
IC 6802-6804 TC74VHC126FTS1	CAPACITORS		
IC 6806 TC74VHC00FTS1	C 7001,7003-7011 CKSRYB105K10		
Q 6801-6803,6813,6814 DTC124EUA	C 7014 CKSSYB102K50		
Q 6804,6805 2SC4081	C 7029,7030 CCSSCH100D50		
Q 6806,6807,6811 2SA1576A	C 7031,7032 CCSSCH470J50		
Q 6808 DTA124EUA	C 7035-7040,7043 CKSSYB104K10		
Q 6809,6810 HN1C01FU	C 7041,7044,7049 DCH1201		
Q 6812 RN1902	C 7045-7048,7050,7051 CKSSYB104K10		C
D 6801-6805 1SS352	C 7053 CKSSYB103K16		
MISCELLANEOUS	Block Name: EMMA2 MEM. BLOCK(EH)		
⚠ X 6801 CERAMIC OSCILLATOR CSS1616	SEMICONDUCTORS		
⚠ X 6802 CRYSTAL OSCILLATOR (32.768 kHz) ASS1212	IC 7201 EDD5116AFTA-5B-E		
RESISTORS	IC 7203 LP2995M		
R 6802 RS1/8SQ0R0J	MISCELLANEOUS		
R 6880,6885 RAB4CQ103J	L 7201 CHIP BEEDS FILTER BTX1042		
R 6883 RAB4CQ473J	RESISTORS		
R 6884 RAB4CQ471J	R 7213 RS1/16SS1500F		D
Other Resistors RS1/16SS###J	R 7243-7246 RAB4CQ680J		
CAPACITORS	R 7247-7254,7256 RAB4CQ220J		
C 6801 CKSSYB102K50	R 7255,7267 RAB4CQ103J		
C 6802 CKSSYB472K16	R 7260,7261,7268-7270 RAB4CQ560J		
C 6803,6804 CKSSYB471K50	R 7272-7275 RAB4CQ101J		
C 6805,6806 CCSSCH8R0D50	Other Resistors RS1/16SS###J		
C 6807,6809,6814 CKSSYB104K10	CAPACITORS		
C 6808,6825 DCH1201	C 7201 CKSRYB105K10		
C 6810 CKSSYB103K16	C 7202-7204 BCG1059		
C 6817-6824 CKSSYB104K10	C 7205,7206,7225 DCH1201		
Block Name: EMMA2 BLOCK(EH)	C 7207-7219,7223 CKSSYB104K10		E
SEMICONDUCTORS	C 7226 CEHVAW331M6R3		
IC 7002 TC74VHC08FTS1	Unit Name: CARD ASSY(EU HD)		
IC 7003 UPD61123F1-100KA3A	Block Name: BOARD IF CARD BLOCK		
IC 7004 BR24L64F-W	MISCELLANEOUS		
IC 7005 TC7WHU04FU	CN 8801 L-PLUG(9P) KM200NA9L		
IC 7006 TC74HC4066AFT	CN 8803,8804 50P CONNECTOR AKM1399		
Q 7001 2SJ461A	RESISTORS		
Q 7002,7003 DTC124EUA	R 8806,8807 RAB4CQ221J		F
Q 7005 SSM6N17FU	Other Resistors RS1/16SS###J		
Q 7010 UMD2N			
D 7010 1SS301			
MISCELLANEOUS			
L 7001,7002 CHIP BEEDS FILTER BTX1042			

Mark No. Description Part No.

Block Name: POWER CARD 0 BLOCK

SEMICONDUCTORS

IC 8901 LNBH23PP/1B
 IC 8902 BD8624EFV
 IC 8903,8904 MM1593DF
 IC 8908,8909 AAT4610AIGV-1
 Q 8902,8910-8913 RT1N241M

Q 8903 2SC4081
 Q 8907 RT1P241M
 Q 8908 RT3T22M
 Q 8909 RTQ045N03
 D 8901 1SS352

D 8910 D1FM3
 D 8911,8912 RB520S-30
 D 8913 RB060M-30
 D 8914 TDZ5R1

MISCELLANEOUS

L 8901 CHIP INDUCTOR (2.2 uH) ATH1244
 L 8902 CHIP BEEDS FILTER BTX1042
 L 8903 CHIP BEEDS FILTER BTX1039
 L 8904 INDUCTOR CTH1254
 L 8906 INDUCTOR ATH1235

L 8980 INDUCTOR (270 uH) ATH1242

RESISTORS

R 8901,8905-8909,8964 RS1/8SQ0R0J
 R 8911,8919 RS1/4SA101J
 R 8918 RS1/4SA150J
 R 8944 RS1/16SS1003D
 R 8945,8948 RS1/16SS3302D

R 8967,8968 RS1/8SQ0R0J
 Other Resistors RS1/16SS###J

CAPACITORS

C 8901-8903 ACH1495
 C 8904-8906,8913 CKSRYB104K50
 C 8907,8908 CKSRYB104K25
 C 8909,8912 CKSRYB224K16
 C 8911 CKSRYB682K50

C 8916,8917,8923,8924 CKSRYB105K10
 C 8921,8922 BCG1059
 C 8925,8926 CKSSYB103K25
 C 8928,8934 CKSSYB471K50
 C 8932 CKSSYB223K16

C 8933,8958,8959,8963 CCSSCH101J50
 C 8937 CEHVAW100M35
 C 8942,8943,8951,8952 DCH1201
 C 8945,8949 DCH1165
 C 8947,8948 CKSRYB104K16
 C 8964 CCSSCH101J50
 C 8965,8966 CKSSYB104K10

Block Name: DVB S2 TUNER BLOCK

SEMICONDUCTORS

IC 9102 STV-0903
 D 9101 1.5SMC24A
 D 9103 RB060L-40

MISCELLANEOUS

L 9101 CHIP BEEDS FILTER BTX1042
 F 9101 FERRITE CORE VTF1080

Mark No. Description Part No.

△ X 9101 CRYSTAL (27 MHz)
 △ U 9101 FE

RESISTORS

R 9101,9120,9123 RS1/8SQ0R0J
 R 9116 RS1/10SR103J
 R 9148 RAB4CQ103J
 R 9149,9150 RAB4CQ470J
 Other Resistors RS1/16SS###J

CAPACITORS

C 9101,9159 BCG1059
 C 9102-9106,9113 CKSSYB103K16
 C 9114 CKSSYB102K50
 C 9116,9117 CCSSCH120J50
 C 9125-9136,9140-9154 CKSSYB103K16

C 9155,9158 CEHVAW101M6R3
 C 9160-9163,9165 CKSSYB104K10
 C 9166-9179 CKSSYB103K16

Block Name: TS SELECT BLOCK

SEMICONDUCTORS

IC 9201-9203 TC74LCX157FTS1
 IC 9204,9205 TC74LCX541FTS1

RESISTORS

R 9203,9204 RAB4CQ473J
 R 9221,9224 RAB4CQ151J
 R 9226,9227 RAB4CQ470J
 Other Resistors RS1/16SS###J

CAPACITORS

C 9201-9205 CKSSYB104K10

Block Name: CIMAX BLOCK

SEMICONDUCTORS

IC 9301-9304 TC74VHCT373AFT
 IC 9305 TC74VHC08FTS1
 IC 9306 CIMAXSP2L
 IC 9307,9310,9313 TC74VHC32FTS1
 IC 9308,9309 TC74VHCT541AFTS1

IC 9311,9312 TC74VHCT245AFTS1
 Q 9301-9304,9307,9308 RT1N241M

RESISTORS

R 9301,9302,9375 RS1/8SQ0R0J
 R 9336,9337 RAB4CQ103J
 R 9338,9355 RAB4CQ331J
 R 9339,9341,9345-9348 RAB4CQ470J
 R 9340,9343,9349,9351 RAB4CQ680J

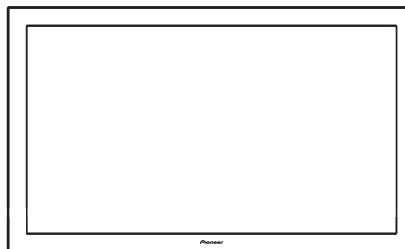
R 9342,9344 RAB4CQ151J
 R 9350,9352-9354,9357 RAB4CQ101J
 R 9356,9358-9374,9406 RAB4CQ470J
 R 9376-9383 RAB4CQ220J
 R 9384-9387 RAB4CQ104J

R 9407,9410,9411 RAB4CQ470J
 Other Resistors RS1/16SS###J

CAPACITORS

C 9301 CKSSYB102K50
 C 9302-9304,9307,9308 CKSSYB104K10
 C 9305,9306 DCH1201
 C 9309,9316 CKSRYB105K10
 C 9310-9315,9318-9324 CKSSYB104K10

Service Manual



PDP-LX5090

ORDER NO.
ARP3480

FLAT SCREEN TV

PDP-LX5090

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-LX5090	WYSIXK5	AC 220 V to 240 V	
PDP-LX5090	WYS5	AC 220 V to 240 V	



For details, refer to "Important Check Points for good servicing".

SAFETY INFORMATION



This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.



WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65



NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.

6. Perform the following precautions against unwanted radiation and rise in internal temperature.

- Always return the internal wiring to the original styling.
- Attach parts (Gasket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.

7. Perform the following precautions for the PDP panel.

- When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
- Make sure that the panel vent does not break. (Check that the cover is attached.)
- Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.

8. Pay attention to the following.

- Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4 MΩ.

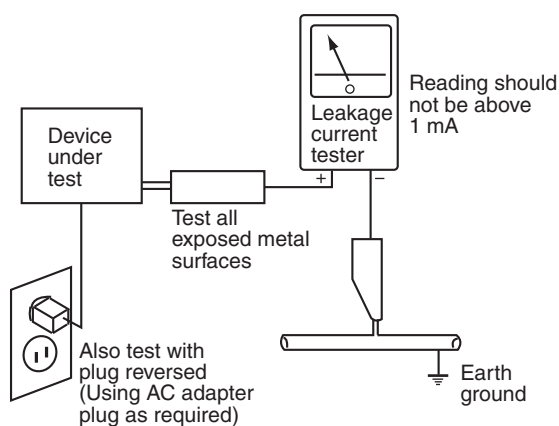
The below 4 MΩ resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).

Turn the AC power switch on.

Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

A

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety



Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

- ① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

- ② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification (addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

- ③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

- ④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

- ⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

- ⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

- ⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

- ⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

- ⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

- ⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments



To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts



Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning



For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws



To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

F

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1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

A

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.
- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 °C.
Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

B

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:

- Parts numbers of lead-free solder:
GYP1006 1.0 in dia.
GYP1007 0.6 in dia.
GYP1008 0.3 in dia.

C

D

E

F

■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power Cord
2. AC Inlet
3. Power Switch
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer
(In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.

The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in “5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION” are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

50F X DRIVE Assy	.....	(205 V)
50F Y DRIVE Assy	.....	(-280 V to 420 V)
50F SCAN A Assy	.....	(-280 V to 420 V)
50F SCAN B Assy	.....	(-280 V to 420 V)

- : Part is Charged Section.
■ : Part is the High Voltage Generating Points other than the Charged Section.

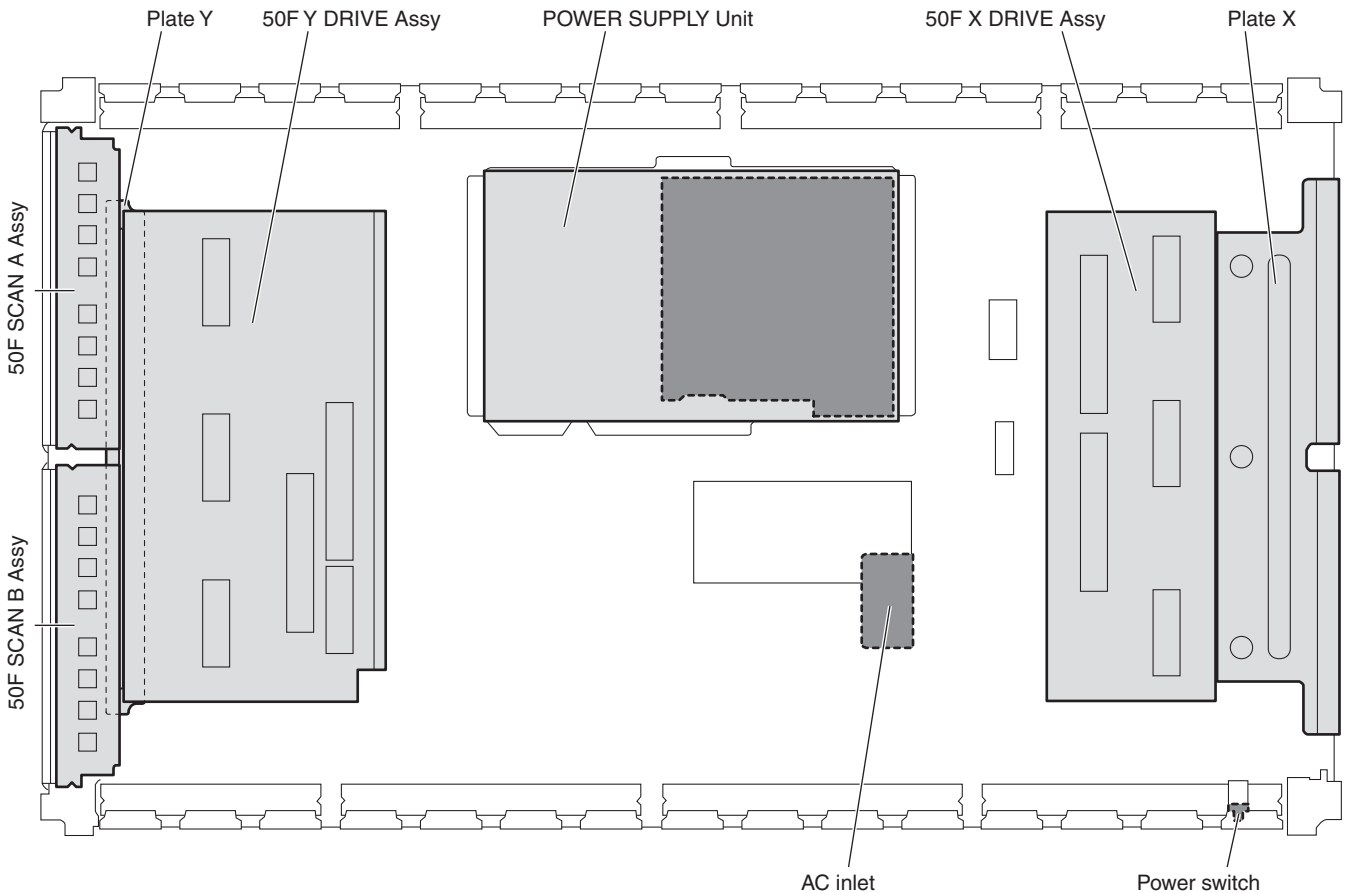


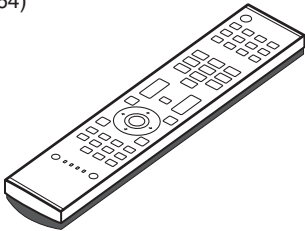
Fig. High Voltage Generating Point (Rear view)

2. SPECIFICATIONS

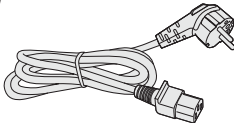
2.1 ACCESSORIES

A

- Remote control unit
(AXD1564)
- Power cable
Only the power cable appropriate for your country or region
is supplied:



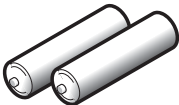
(ADG1214)



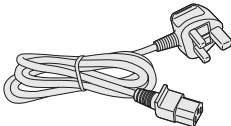
For Europe, except UK and Republic of Ireland

B

- Dry cell battery (R6, AA) (×2)
(for remote control unit)



(ADG1223: WYSIXK5 only)



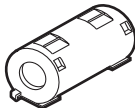
For UK and Republic of Ireland

C

- Ferrite core
(ATX1039)

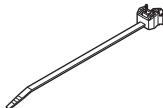
- Ferrite core

- Cable tie (for ferrite core)



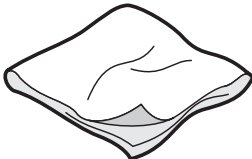
- Binder Assy
(AEC2158)

- Cable clamp (×4)

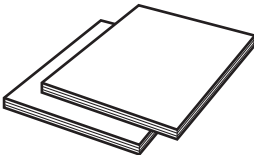


D

- Cleaning cloth (AED1285)

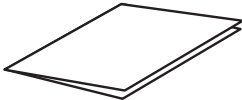


- Operating instructions (×2)
(ARE1492: WYSIXK5 only)
(ARC1606: WYSIXK5 only) or (ARC1618: WYS5 only)



E

- Warranty card



F

2.2 SPECIFICATIONS

Item			50" flat screen TV, model: PDP-LX5090
Number of pixels			1920 x 1080 pixels
Audio amplifier			18 W + 18 W (1 kHz, 10 %, 6 Ω)
Sound Effect			SRS FOCUS/SRS/SRS TruBass/SRS Definition
Power Requirements			220 V to 240 V AC, 50 Hz/60 Hz, 420 W (0.3 W Standby)
Weight			33.5 kg (73.9 lbs.)
Colour System	Analogue		PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60
	Digital		PAL/SECAM
TV Function (Analogue)	Receiving System		B/G, D/K, I, L, L'
	Tuner	VHF/UHF	E2–E69 ch, F1–F6 ch, I21–I69 ch, IR A–IR J ch
		CATV	Hyper-band, S1–S41 ch
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort
	STEREO		NICAM/A2
TV Function (Digital)	Receiving System		DVB-T(2K/8K COFDM)
	Tuner	VHF/UHF	VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz)
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort
	STEREO		MPEG layer I/II, Dolby Digital
Terminals	Rear	INPUT 1	SCART (AV in, RGB in, TV out), HDMI in ^{*1}
		INPUT 2	SCART (AV in/out, S-VIDEO in, AV link ^{*2}), Component Video in, AUDIO in
		INPUT 3	SCART (AV in/out, S-VIDEO in, RGB in, AV link ^{*2}), HDMI in ^{*1}
		INPUT 4	HDMI in ^{*1}
		CONTROL OUT	1
		SPEAKERS	6 Ω to 16 Ω
		Antenna	75 Ω Din Type for VHF/UHF in
		PC INPUT	Analogue RGB in, Audio in
		AUDIO OUT	AUDIO out (Fixed)
		SUB WOOFER OUT	Variable
		DIGITAL OUT	Digital audio output (Optical)
		COMMON INTERFACE	CA Module
	Side	INPUT 5	VIDEO in, AV in
		USB	USB in ^{*3}
		PHONES	16 Ω to 32 Ω recommended

^{*1} This conforms to HDMI1.3 (Deep Colour) and HDCP1.1. HDMI (High-Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

^{*2} Switchable from menu.

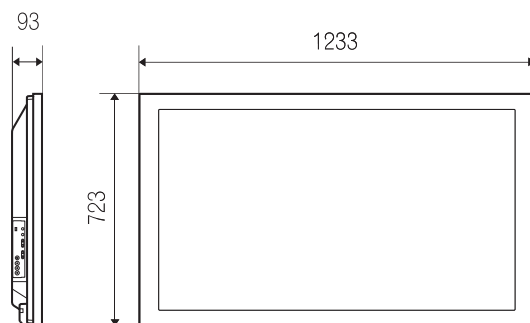
^{*3} This conforms to USB 1.1 and 2.0 specifications.

Design and specifications are subject to change without notice.

Dimensions

PDP-LX5090

Unit: mm

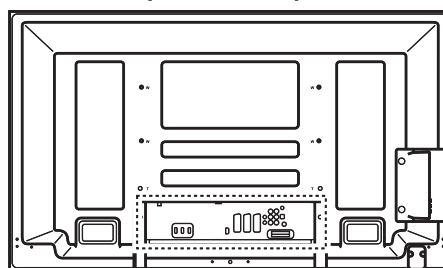


4

Rear Section

(Rear)

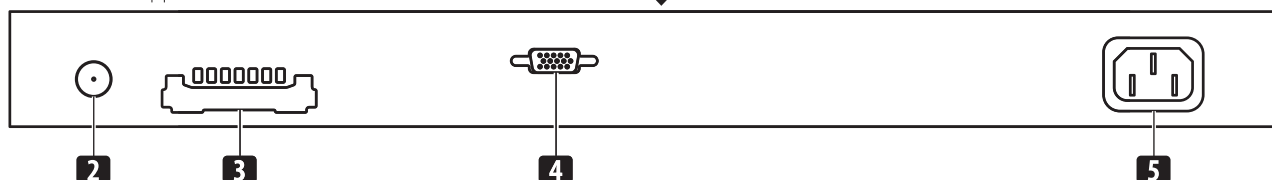
(PDP-LX5090)



1

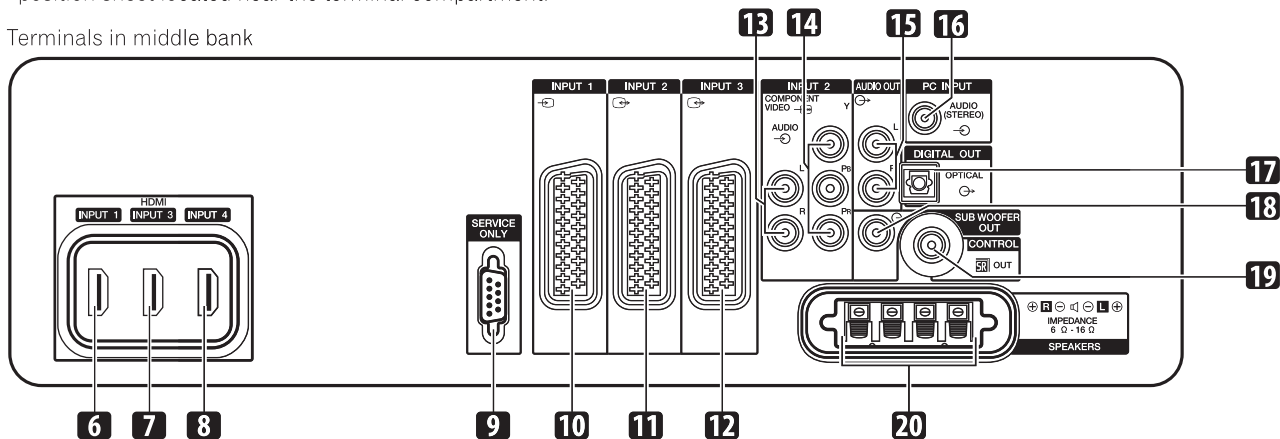


Terminals in upper bank



*For exact terminal positions, refer to the terminal position sheet located near the terminal compartment.

Terminals in middle bank



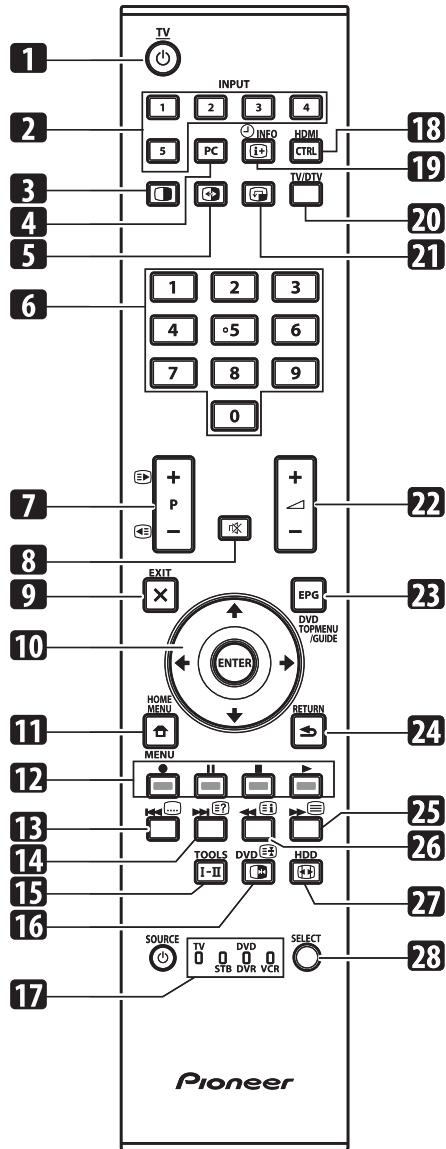
The terminals on the rear panel are common to the PDP-LX6090 and PDP-LX5090.

- | | | | |
|----|---|----|--|
| 1 | Power button | 12 | INPUT 3 terminal (SCART) |
| 2 | ANT (Antenna) input terminal | 13 | INPUT 2 terminals (Audio) |
| | • Power can be supplied through this terminal | 14 | INPUT 2 terminals (COMPONENT VIDEO: Y, P _B , P _R) |
| 3 | COMMON INTERFACE slot | 15 | AUDIO OUT terminals |
| | • For a CA Module with a smart card | 16 | PC INPUT terminal (Audio) |
| 4 | PC INPUT terminal (Analogue RGB) | 17 | DIGITAL OUT terminal (OPTICAL) |
| 5 | AC IN terminal | 18 | SUB WOOFER OUT terminal |
| 6 | INPUT 1 terminal (HDMI) | 19 | CONTROL OUT terminal (supports SR+) |
| 7 | INPUT 3 terminal (HDMI) | 20 | SPEAKERS terminals (right/left) |
| 8 | INPUT 4 terminal (HDMI) | | • Do not connect any devices to the speaker terminals other than the speakers specified. |
| 9 | RS-232C terminal (used for factory setup) | | • Do not leave speaker cable wires bare and exposed at the terminals. Exposed wires can result in an electrical short causing malfunction or damage to the system. |
| 10 | INPUT 1 terminal (SCART) | | |
| 11 | INPUT 2 terminal (SCART) | | |

A

Remote Control Unit

This section describes the functions of the buttons available when the TV mode has been selected by using the **SELECT** button.



- 1 **TV:** Turns on the power to the flat screen TV or places it into the standby mode.
- 2 **INPUT:** Selects an input source of the flat screen TV. ("INPUT 1", "INPUT 2", "INPUT 3", "INPUT 4", "INPUT 5")
- 3 **PC:** Selects the PC terminal as an input source.

- 5 **TV/DTV:** Switches between the two screens when in the 2-screen or picture-in-picture mode.
- 6 **0 to 9:** TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.
- 7 **P+/P-:** TV/External input mode: Selects a channel.
TELETEXT: Teletext mode: Selects a page.
- 8 **MUTE:** Mutes the sound.
- 9 **EXIT:** Returns to the normal screen in one step.
- 10 **UP/DOWN/LEFT/RIGHT:** Selects a desired item on the setting screen.
ENTER: Executes a command.
- 11 **HOME MENU:** Displays the HOME MENU screen.
- 12 **Colour (RED/GREEN/YELLOW/BLUE):**
Teletext mode: Selects a page.
- 13 **TELETEXT:** Jumps to Teletext subtitle page.
Turns subtitle on and off in DTV input mode depending on the broadcast.
- 14 **TELETEXT HIDDEN:** Displays hidden characters.
- 15 **I-II:** Sets the sound multiplex mode.
- 16 **TV/EXTERNAL:** TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.
TELETEXT HOLD: Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.
- 17 **TV, STB, DVD/DVR, VCR:** These indicators show the current selection and status when you control other connected equipment, using the supplied remote control unit.
- 18 **HDMI CONTROL:** Displays the HDMI Control menu.
- 19 **INFO:** Displays the channel information.
Displays the banner information in DTV input mode.
- 20 **TV/DTV:** Switches between the TV and DTV input modes.
- 21 **PI-P:** Moves the location of the small screen when in the picture-in-picture mode.
- 22 **VOLUME:** Sets the volume.
- 23 **EPG:** Displays the Electronic Programme Guide in DTV input mode.
- 24 **RETURN:** Restores the previous menu screen.
- 25 **TELETEXT MODE:** Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).
- 26 **CEEFAX/FLOF:** Displays an Index page for the CEEFAX/FLOF format.
Displays a TOP Over View page for the TOP format.
- 27 **SCREEN SIZE:** Selects the screen size.
- 28 **SELECT:** Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other connected equipment, using the supplied remote control unit.

Note

- When using the remote control unit, point it at the flat screen TV.

F

Items to be checked after repair (PDP)

To ensure the quality of the product after repair, check the recommended items shown below:

No.	Procedures	Item to be checked
1	Check if all the symptoms pointed out by the customer have been addressed.	The symptoms in question must not be reproduced.
2	Connect the peripheral equipment.	Connect all external peripheral equipment as originally connected and check if the connections are correct.
3	Check the video and audio.	Tune in to the stations that the customer would normally receive and check if video and audio are normal.
4	Check the buttons and controls.	Use the buttons and controls on the remote control unit and main unit and check if they operate properly.
5	Check the cabinet.	Check for any scratches or dirt that have been made or attached on the cabinet after receiving the product for repair.

See the table below for the items to be checked regarding video and audio:

Item to be checked regarding video	Item to be checked regarding audio
Block noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Mottled color	

Cleaning



Name	Part No.	Remarks
Cleaning paper	GED-008	Used to fan cleaning. Refer to “9.4 CHASSIS SECTION (1/2)”.

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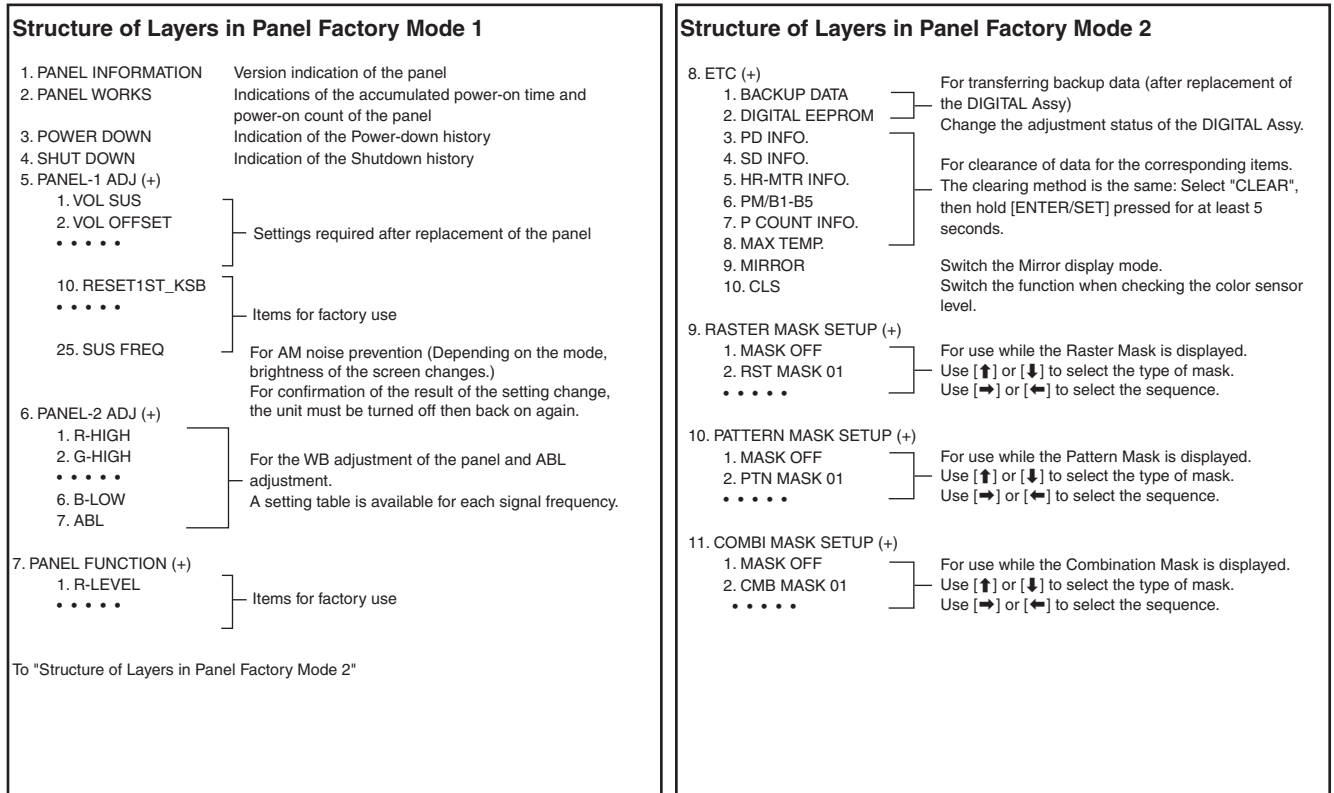
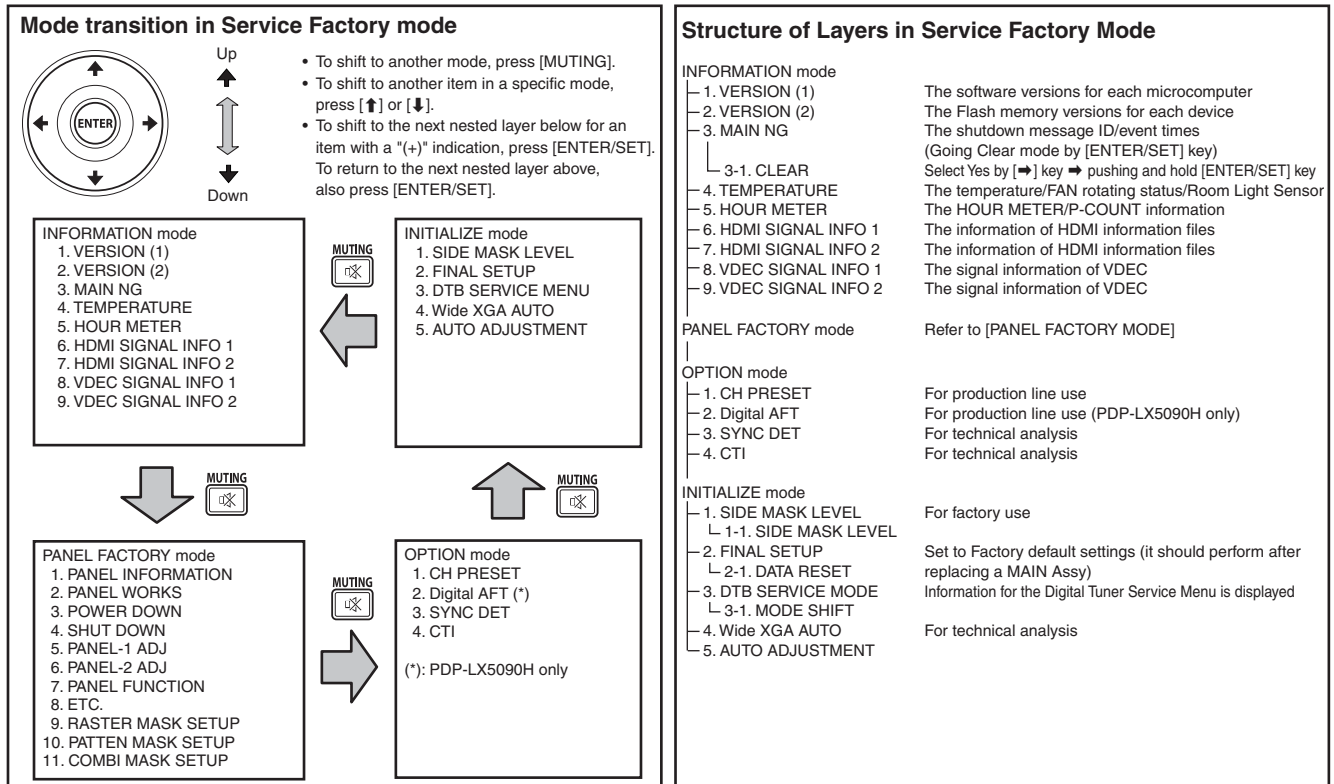
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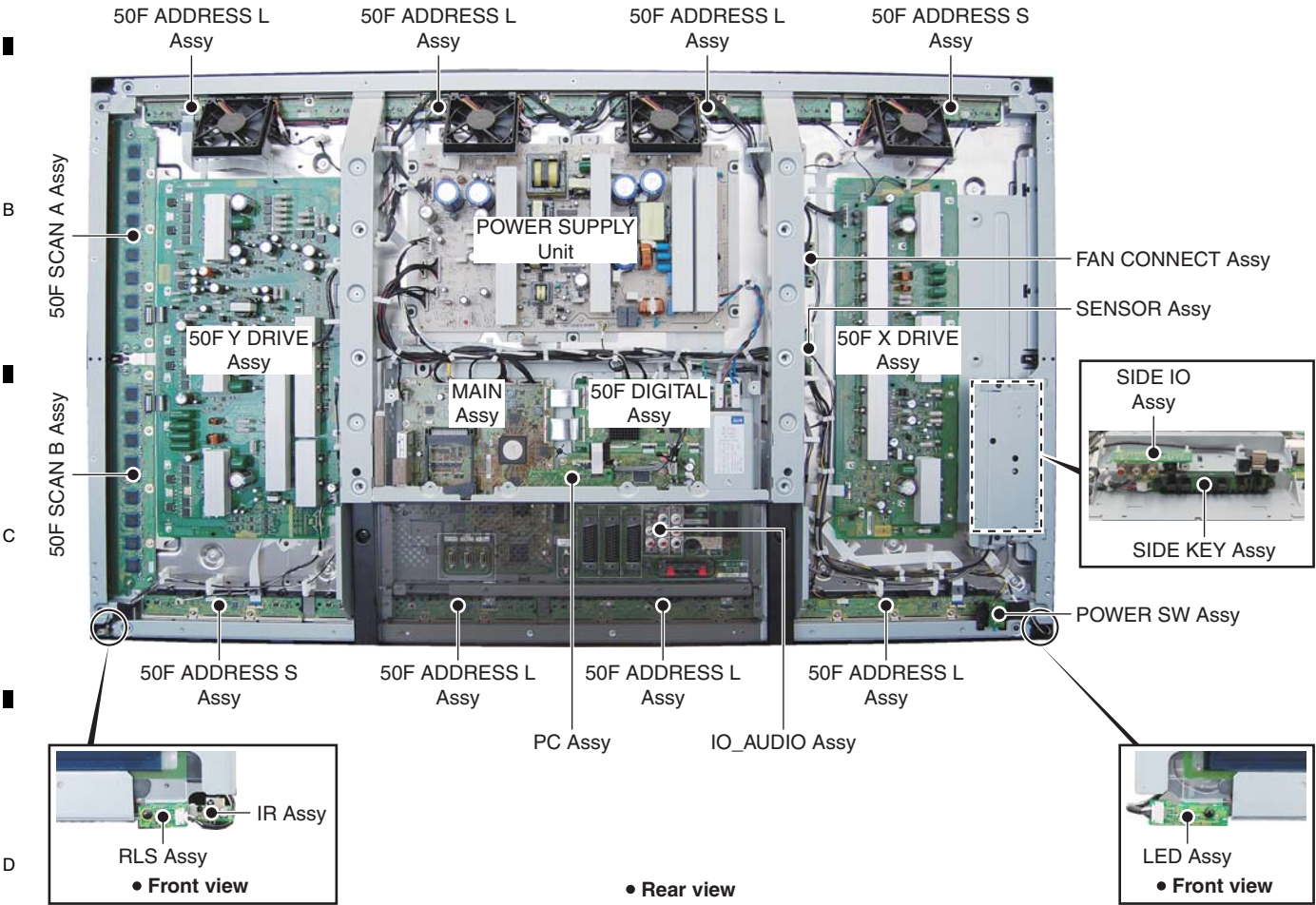
Quick Reference upon Service Visit ②

Mode transition and structure of layers in Service Factory mode



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Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.



NOTES:

●	Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
⚠	The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
LIST OF ASSEMBLIES							
E	NSP	50F ADDRESS L ASSY	AWW1348	⚠		MAIN ASSY	AWV2555
	NSP	50F ADDRESS S ASSY	AWW1349			IO_AUDIO ASSY	AWW1354
						SIDE IO ASSY	AWW1358
	NSP	50F SCAN A ASSY	AWW1350			PC ASSY	AWW1359
		IC2801 - IC2808	AN16184A			SIDE KEY ASSY	AWW1361
	NSP	50F SCAN B ASSY	AWW1351			LED ASSY	AWW1362
		IC2901 - IC2908	AN16184A			IR ASSY	AWW1363
		SENSOR ASSY	AWW1340			FAN CONNECT ASSY	AWW1364
		50F DIGITAL Assy	AWW1347			RLS ASSY	AWW1365
		50F X DRIVE ASSY	AWV2546			POWER SW ASSY	AWW1366
F		50F Y DRIVE ASSY	AWV2547	⚠		POWER SUPPLY UNIT	AXY1200
						PDP SERVICE ASSY 509FE	AWU1342

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4. BLOCK DIAGRAM

4.1 OVERALL WIRING DIAGRAM (1/2)

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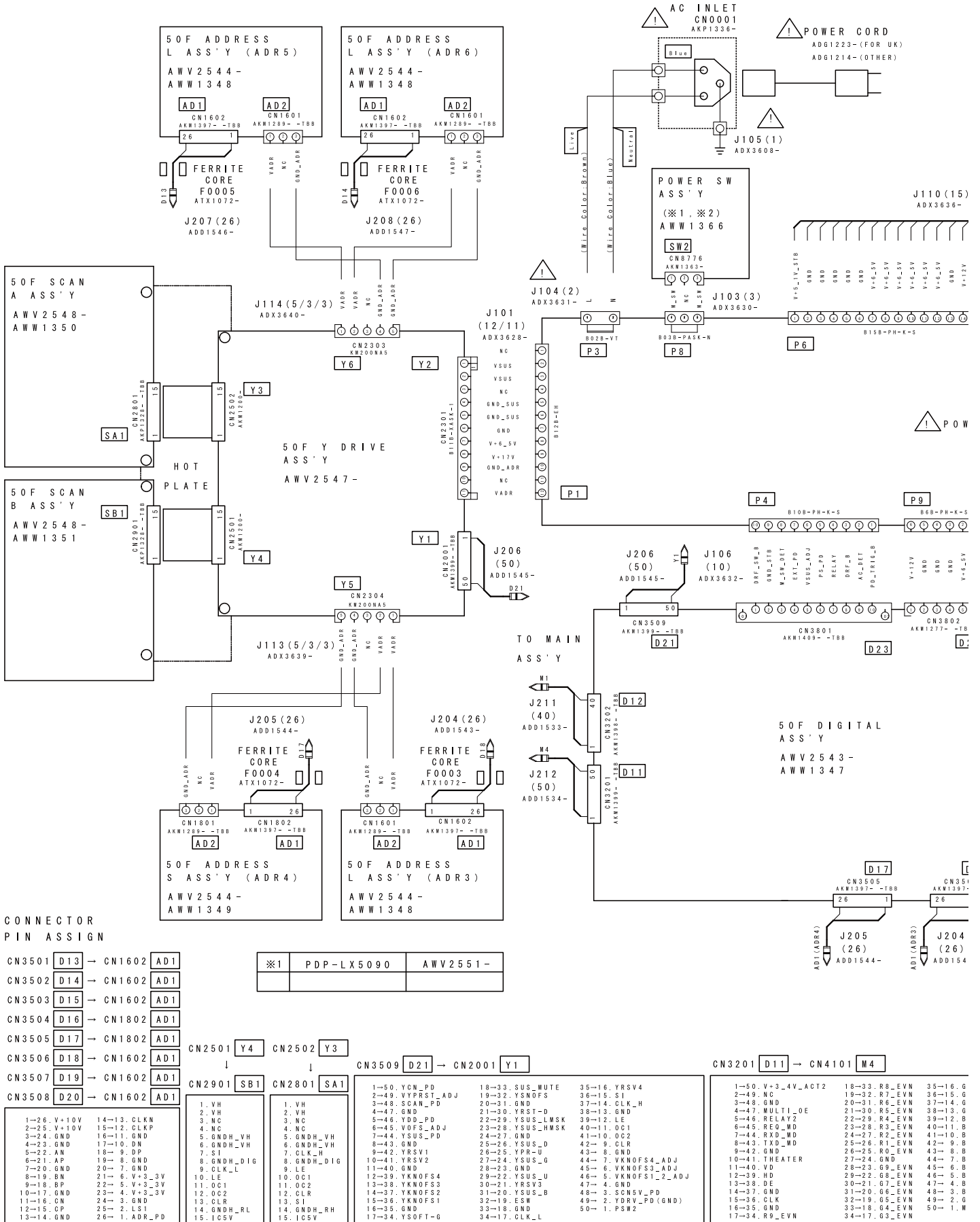
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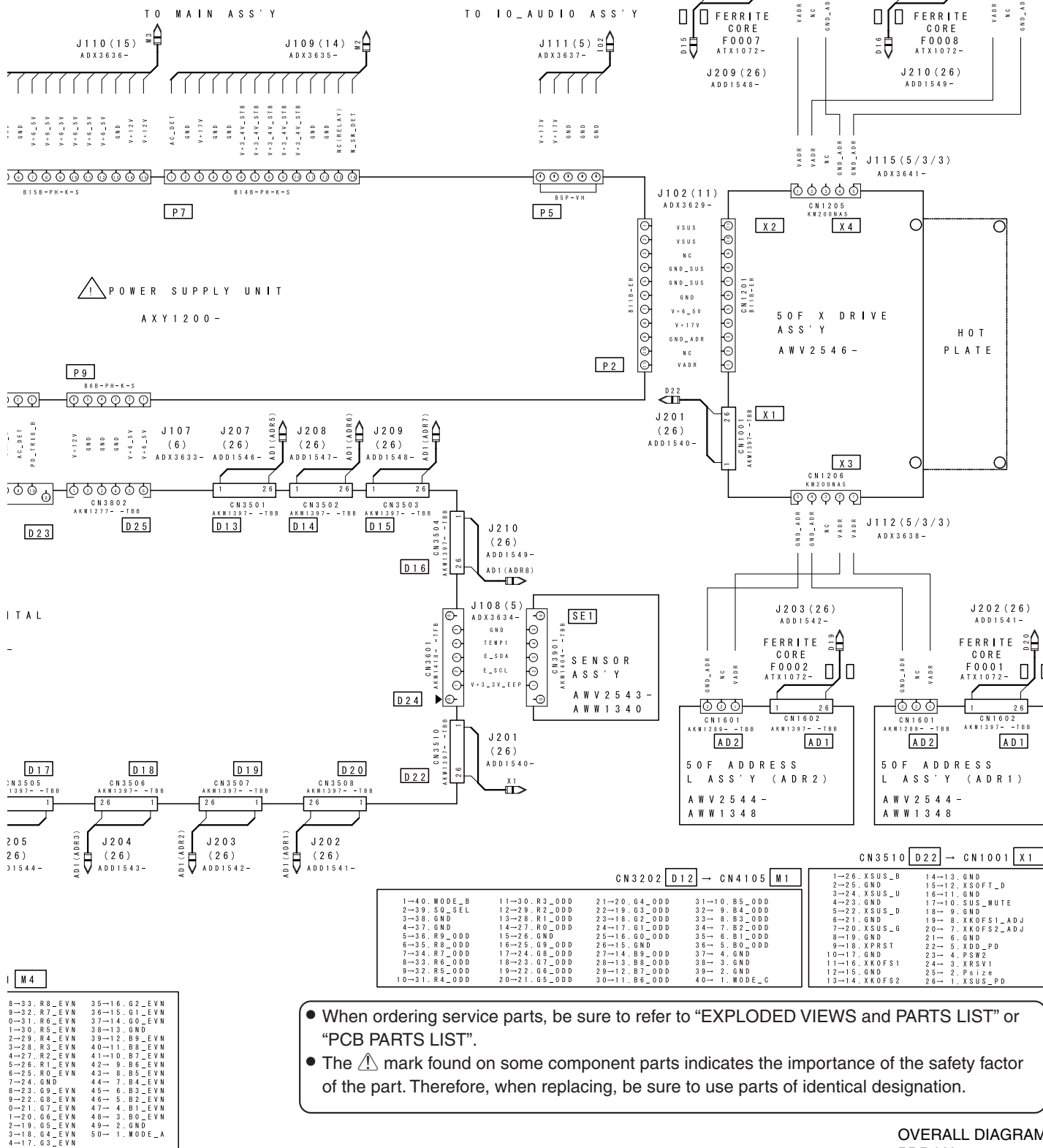
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- When ordering service parts, be sure to refer to “EXPLODED VIEWS and PARTS LIST” or “PCB PARTS LIST”.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

OVERALL DIAGRAM
PDP-LX5090

A

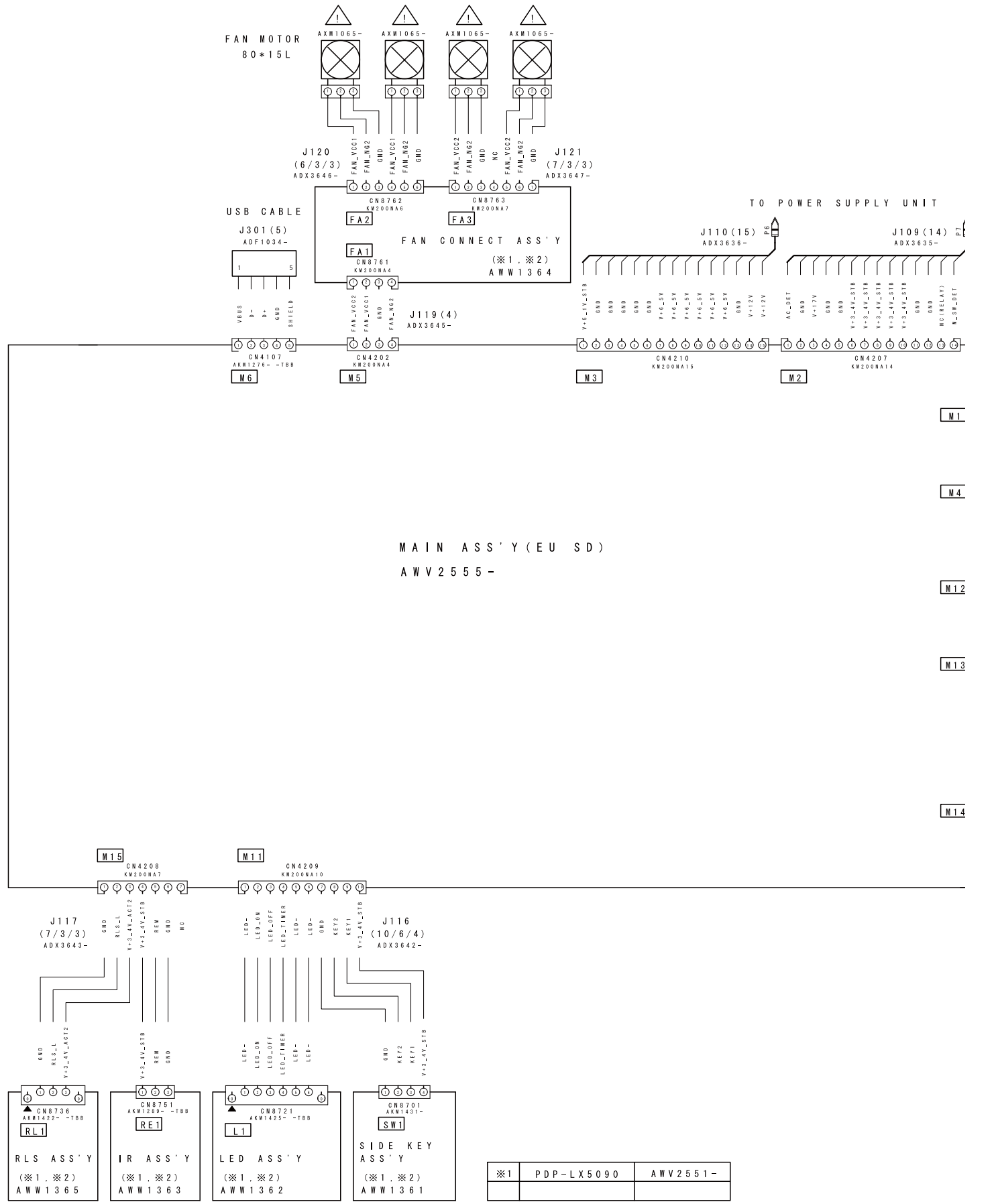
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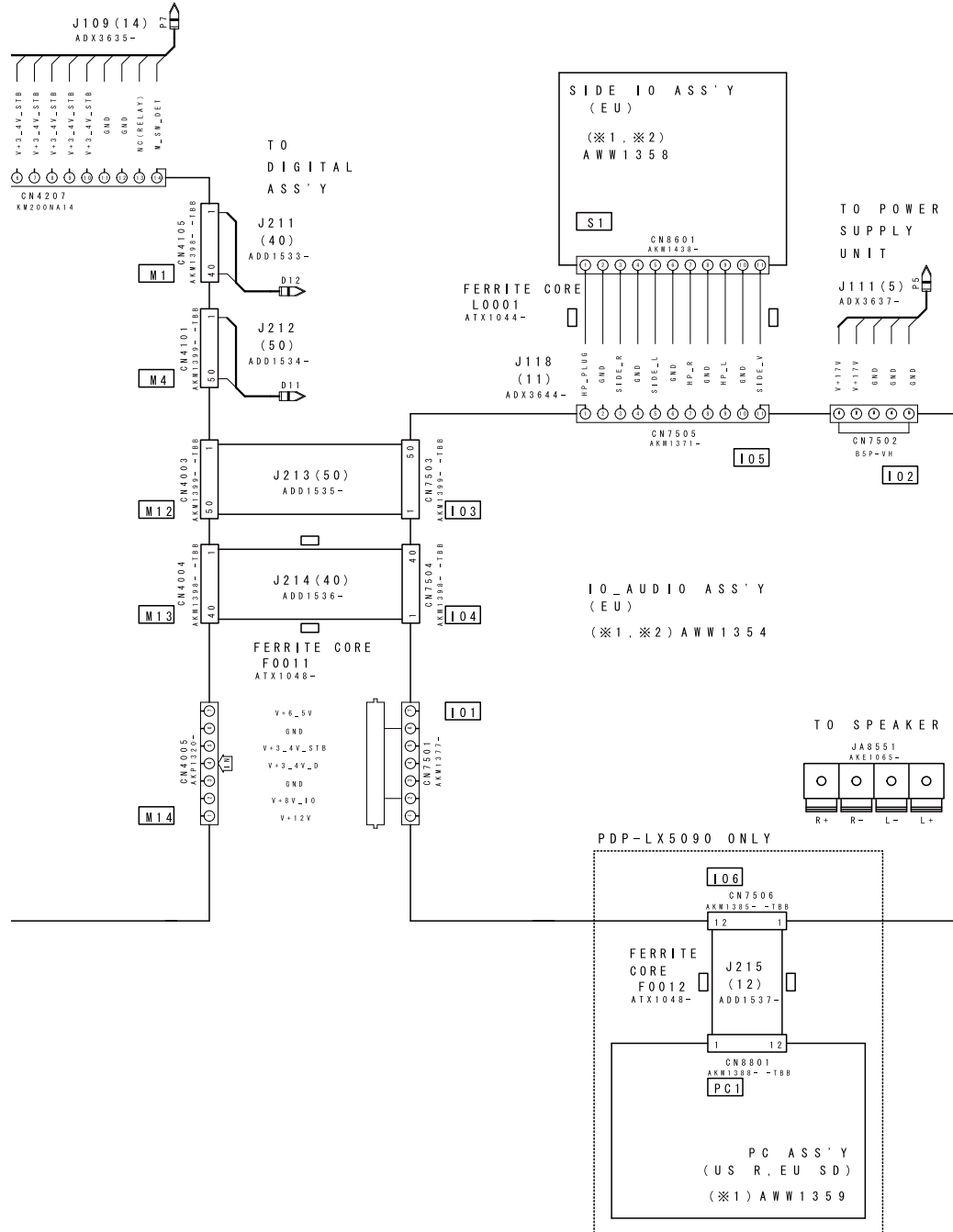
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JPLY UNIT



CONNECTOR PIN ASSIGN

CN4003 M12 → CN7503 I03

1-50. GND	26-25. GND
2-49. HP_PLUG	27-24. EMMA_DA_GY
3-48. WP_EDID	28-23. EMMA_DA_BCB
4-47. DSUB_DET	29-22. EMMA_DA_RCR
5-46. AC_HP_MUTE	30-21. GND
6-45. GND	31-20. EXT_HD
7-44. SDA_AV	32-19. EXT_VD
8-43. SCL_AV	33-18. INT_VD
9-42. GND	34-17. INT_HD
10-41. AC_A_MUTE	35-16. CLP_RGB1
11-40. RST_WSP	36-15. CLP_RGB2
12-39. OTW	37-14. GND
13-38. A_NG_B	38-13. SDA_AV5
14-37. GND	39-12. SCL_AV5
15-36. I2S_BCLK_DTV	40-11. GND
16-35. GND	41-10. SR_OUT
17-34. I2S_LRCLK_DTV	42-9. TXD_SR
18-33. I2S_SDATA_DTV	43-8. RXD_SR
19-32. GND	44-7. GND
20-31. GND	45-6. TXD_232C_1
21-30. GND	46-5. RXD_232C_1
22-29. SPDIF_HDMI	47-4. NC_232C_EN_B
23-28. GND	48-3. 232C_DET
24-27. GND	49-2. RST4
25-26. SPDIF_DTV	50-1. GND(10_DET)

CN4004 M13 → CN7504 I04

1-40. GND	21-20. GND
2-39. RCR_AD	22-19. SUB_C
3-38. GND	23-18. GND
4-37. BCB_AD	24-17. SUB_Y
5-36. GND	25-16. GND
6-35. GY_AD	26-15. A_TUNER_V
7-34. GND	27-14. GND
8-33. RCR_VDEC	28-13. DT_MON_CVBS
9-32. GND	29-12. GND
10-31. BCB_VDEC	30-11. AIR_SIF
11-30. GND	31-10. GND
12-29. GY_VDEC	32-9. AC_AM_MUTE
13-28. GND	33-8. TEMP2
14-27. FB_VDEC	34-7. AC_SC1_MUTE
15-26. GND	35-6. LINK_102
16-25. VBI_Y	36-5. AC_SC2_MUTE
17-24. GND	37-4. LINK_103
18-23. MAIN_C	38-3. AC_SC3_MUTE
19-22. GND	39-2. IR_OUT
20-21. MAIN_Y	40-1. GND

CN4106 M17 → CN8804 C13

1-50. CARD_DET1	26-25. GND
2-49. GND	27-24. TSD_CLK
3-48. I2C_C1_SDA	28-23. GND
4-47. I2C_C1_SCL	29-22. TSI_DATA0
5-46. GND	30-21. TSI_DATA1
6-45. C1_IRO_N	31-20. TSI_DATA2
7-44. C1_RW_N	32-19. TSI_DATA3
8-43. C1_RD_N	33-18. TSI_DATA4
9-42. C1_ACK_N	34-17. TSI_DATA5
10-41. C1_CS_N	35-16. TSI_DATA6
11-40. C1_RST	36-15. TSI_DATA7
12-39. GND	37-14. TSI_VALID
13-38. C1_CLK	38-13. TSI_SYNC
14-37. GND	39-12. GND
15-36. GND	40-11. TSI_CLK
16-35. TSD_DATA0	41-10. GND
17-34. TSD_DATA1	42-9. FE_TS_SEL
18-33. TSD_DATA2	43-8. EMG_DDC
19-32. TSD_DATA3	44-7. DD_RST
20-31. TSD_DATA4	45-6. FE2_RST
21-30. TSD_DATA5	46-5. FE2_INT
22-29. TSD_DATA6	47-4. GND
23-28. TSD_DATA7	48-3. I2C2_SDA
24-27. TSD_VALID	49-2. I2C2_SCL
25-26. TSD_SYNC	50-1. GND

CN4102 M16 → CN8803 C12

1-50. GND	26-25. C1_D[6]
2-49. SPDIF_DTV_C1	27-24. C1_D[7]
3-48. GND	28-23. GND
4-47. ADSP_RST	29-22. C1_A[0]
5-46. ADSP_INT	30-21. C1_A[1]
6-45. DIR_RST	31-20. C1_A[2]
7-44. DIR_INT_N	32-19. C1_A[3]
8-43. SPI_SS0B	33-18. C1_A[4]
9-42. SPI_SS1B	34-17. C1_A[5]
10-41. SPI_SCK	35-16. C1_A[6]
11-40. SPI_MOSI	36-15. C1_A[7]
12-39. SPI_MISO	37-14. GND
13-38. GND	38-13. C1_A[8]
14-37. C1_B_EN	39-12. C1_A[9]
15-36. C1_B_FAULT_B	40-11. C1_A[10]
16-35. C1_A_EN	41-10. C1_A[11]
17-34. C1_A_FAULT_B	42-9. C1_A[12]
18-33. GND	43-8. C1_A[13]
19-32. C1_D[0]	44-7. C1_A[14]
20-31. C1_D[1]	45-6. C1_A[15]
21-30. C1_D[2]	46-5. GND
22-29. C1_D[3]	47-4. C1_A_VS1
23-28. GND	48-3. C1_B_VS1
24-27. C1_D[4]	49-2. GND
25-26. C1_D[5]	50-1. CARD_DET2

CN7506 I06 → CN9602 C14

1-12. V+3.4V-STB	7-6. PC_B
2-11. PC_HD	8-5. GND
3-10. PC_VD	9-4. PC_G
4-9. GND	10-3. WP_EDID
5-8. PC_R	11-2. V+5V_I/O
6-7. GND	12-1. SPDIF_ADSP

CN7506 I06 → CN8801 PC1

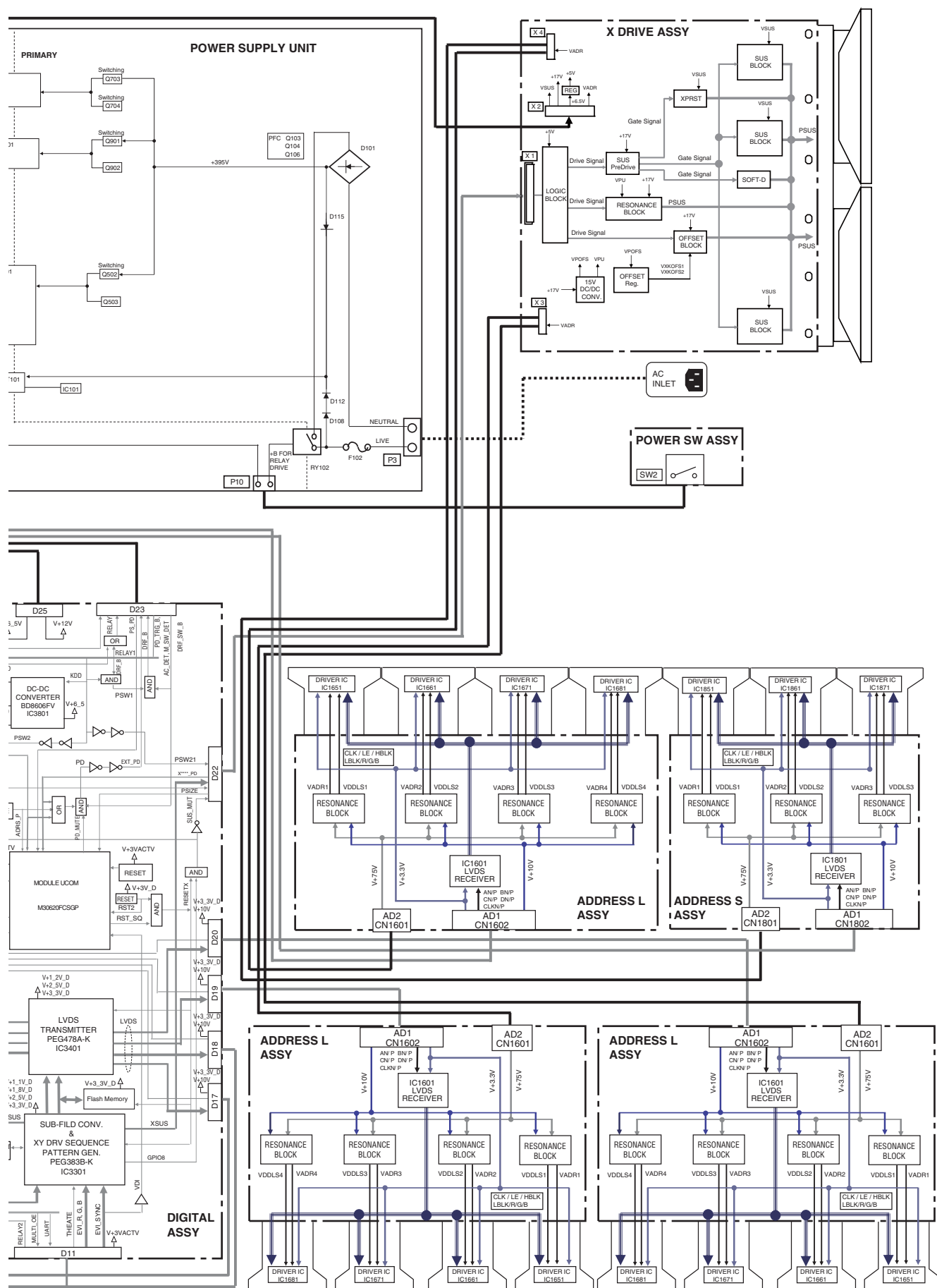
1-12. V+3.4V-STB	7-6. PC_B
2-11. PC_HD	8-5. GND
3-10. PC_VD	9-4. PC_G
4-9. GND	10-3. WP_EDID
5-8. PC_R	11-2. V+5V_I/O
6-7. GND	12-1. GND

OVERALL DIAGRAM
PDP-LX5090

△

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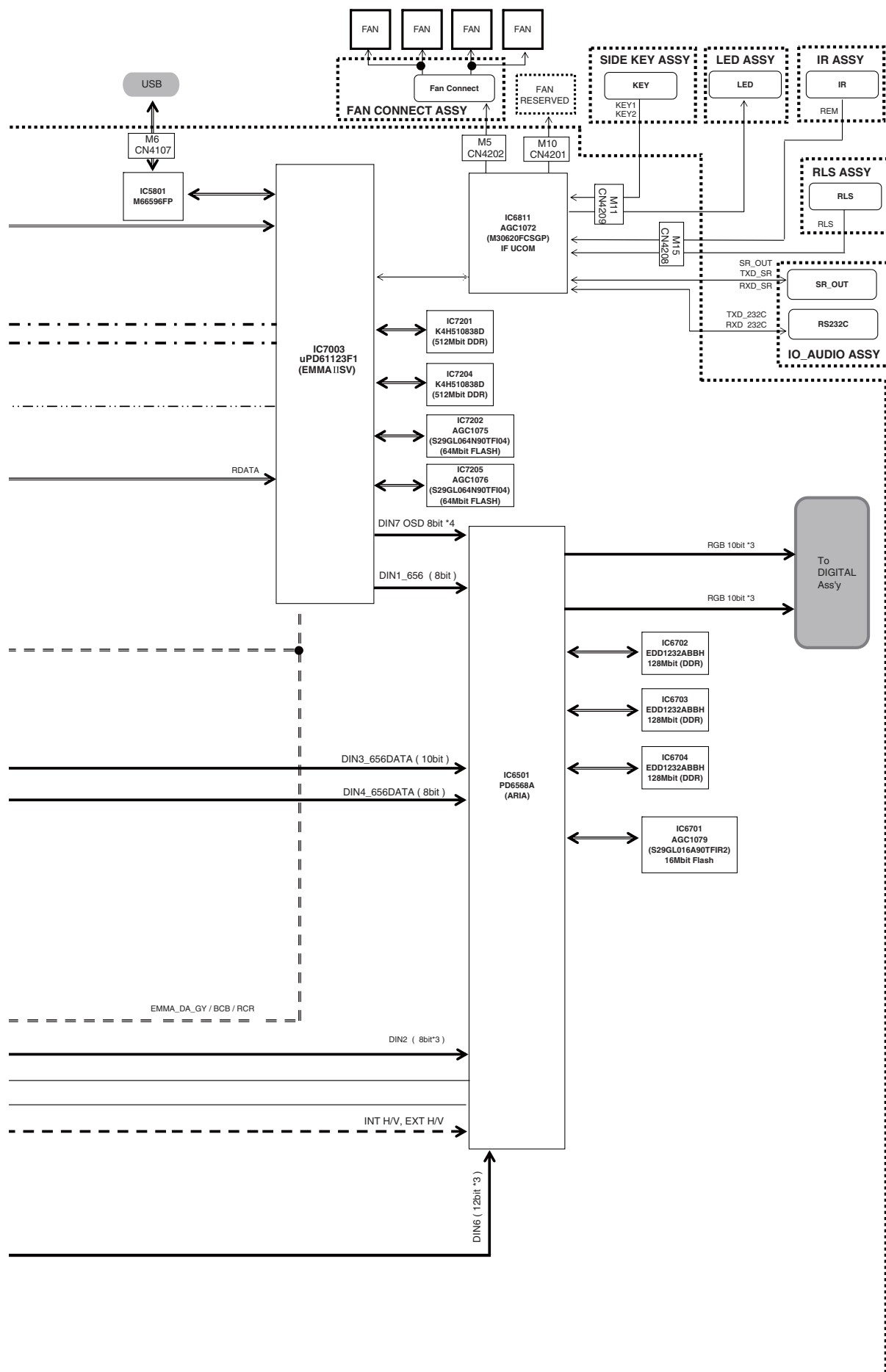




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4.5 POWER SUPPLY UNIT

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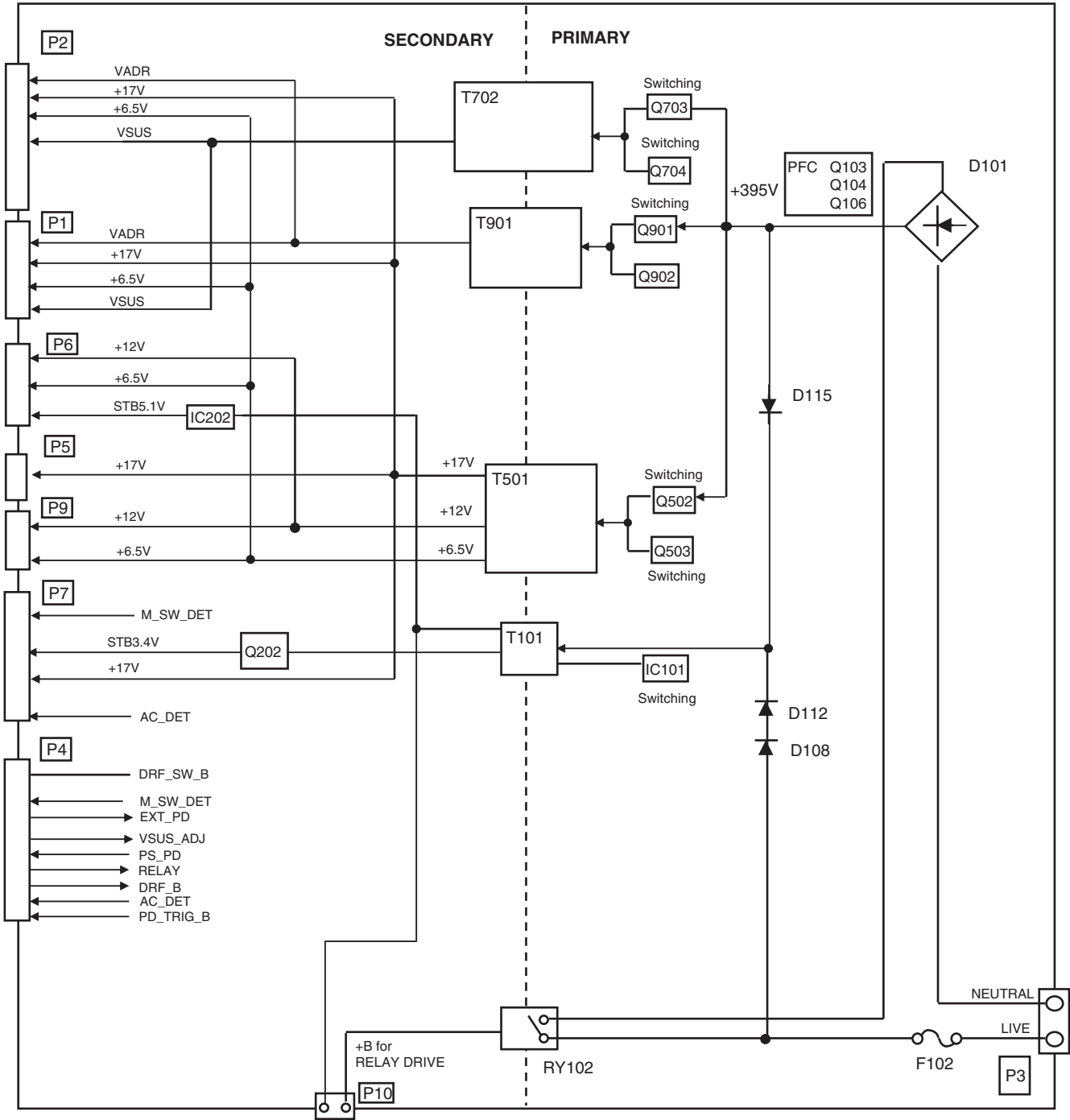
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POWER SUPPLY UNIT



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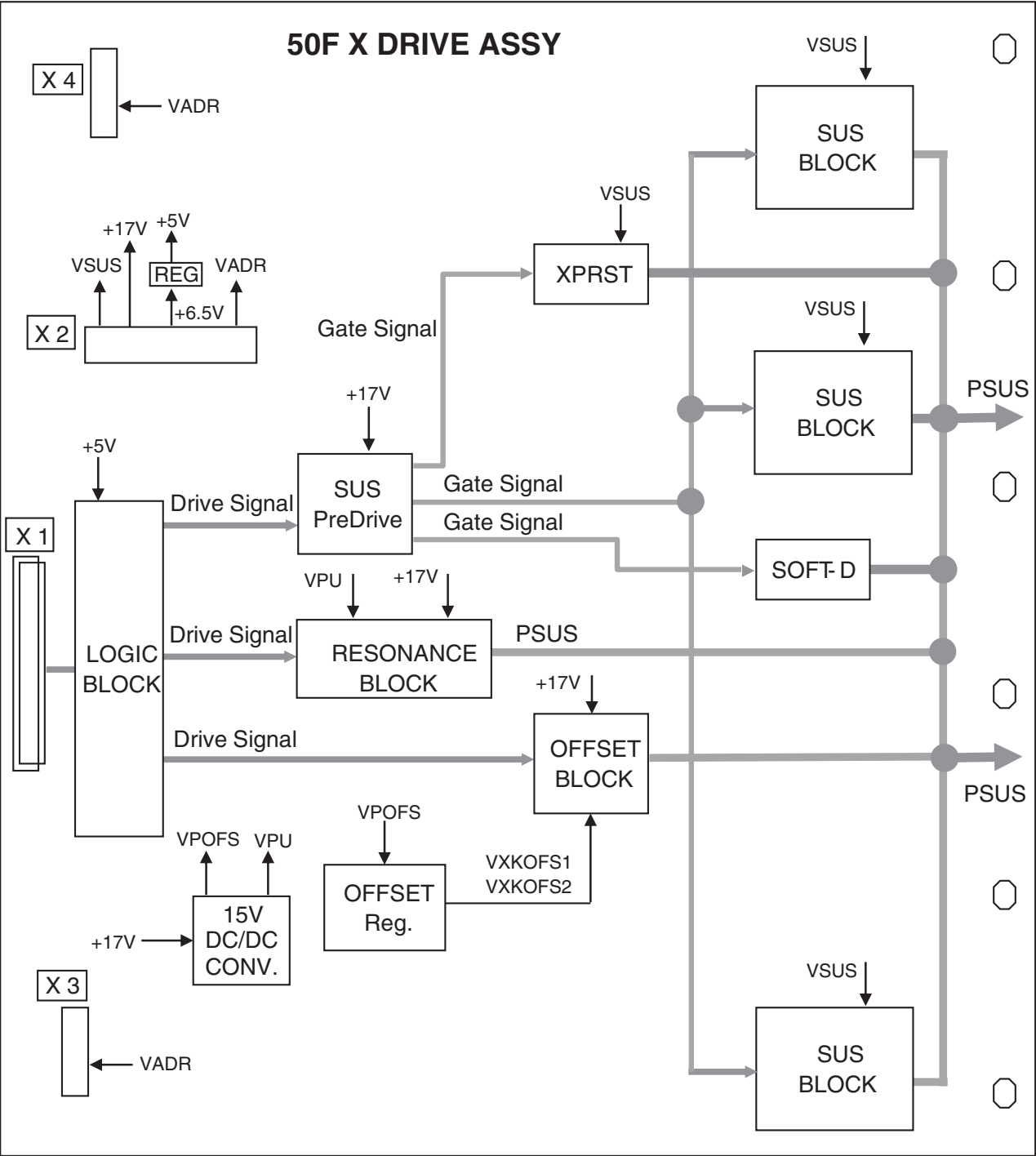
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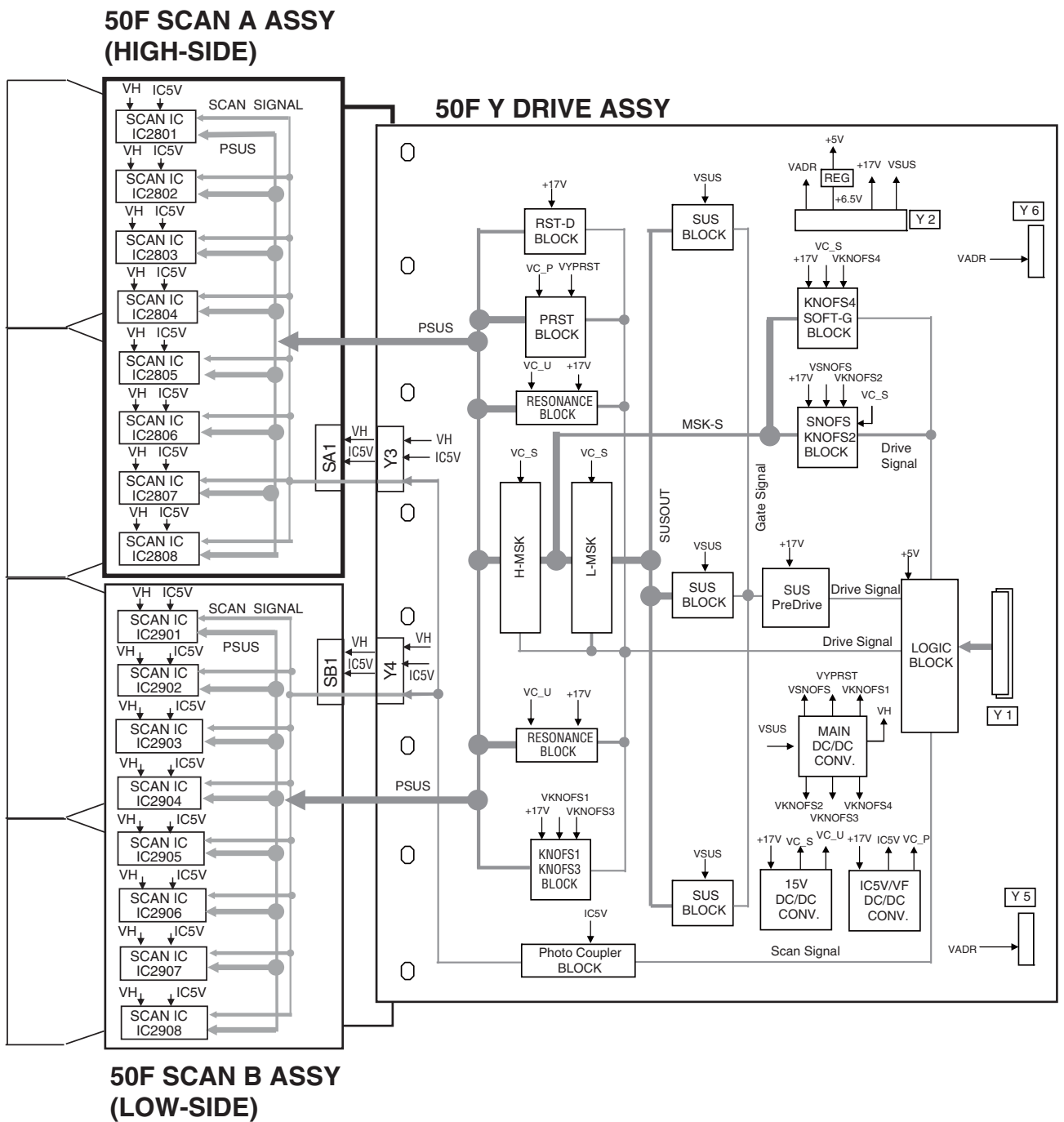
8

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4.6 50F X DRIVE ASSY



4.7 50F Y DRIVE, 50F SCAN A and B ASSYS



4.8 POWER SUPPLY BLOCK of 50F X, Y DRIVE and 50F SCAN A and B ASSYS

A

B

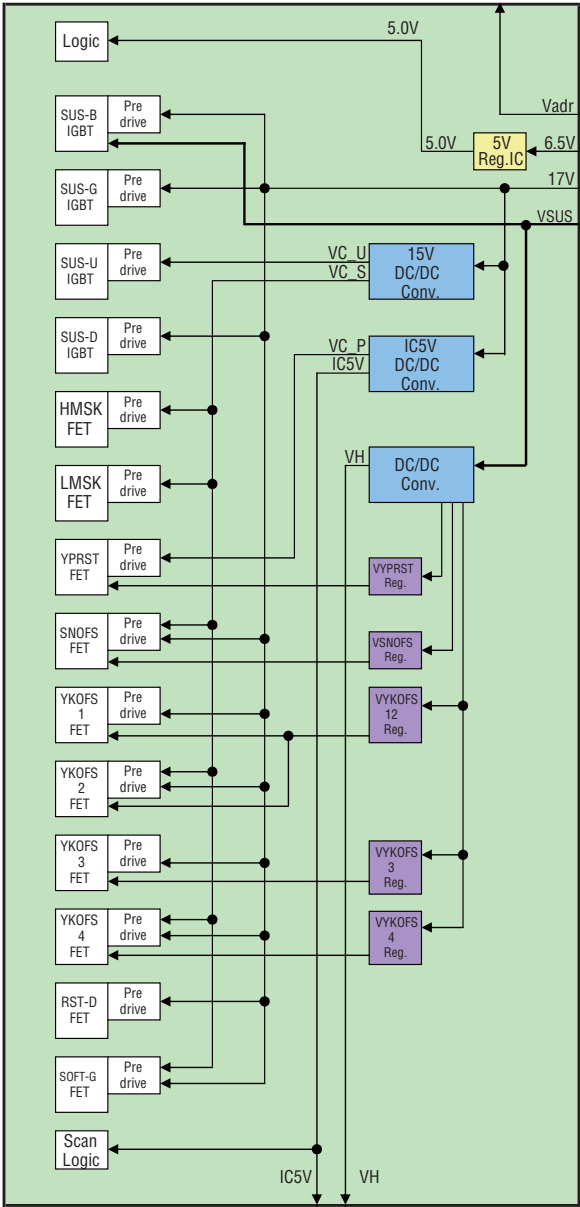
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D

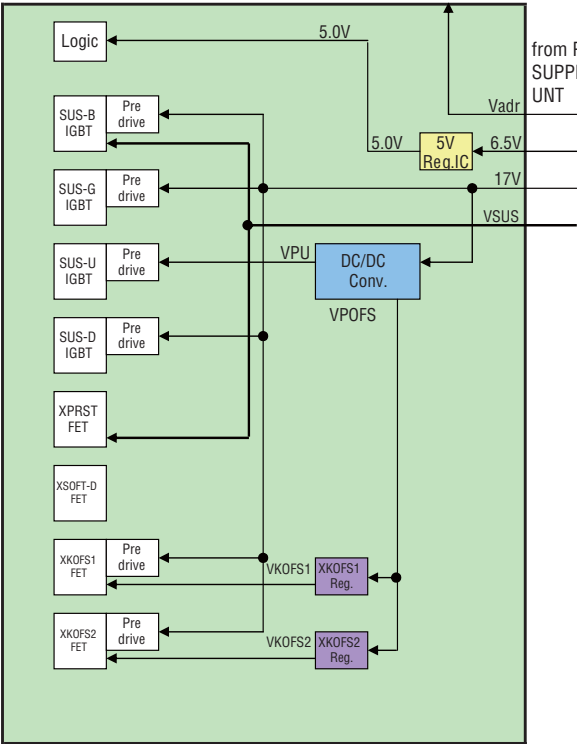
E

F

50F Y DRIVE ASSY

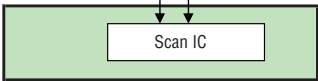


50F X DRIVE ASSY



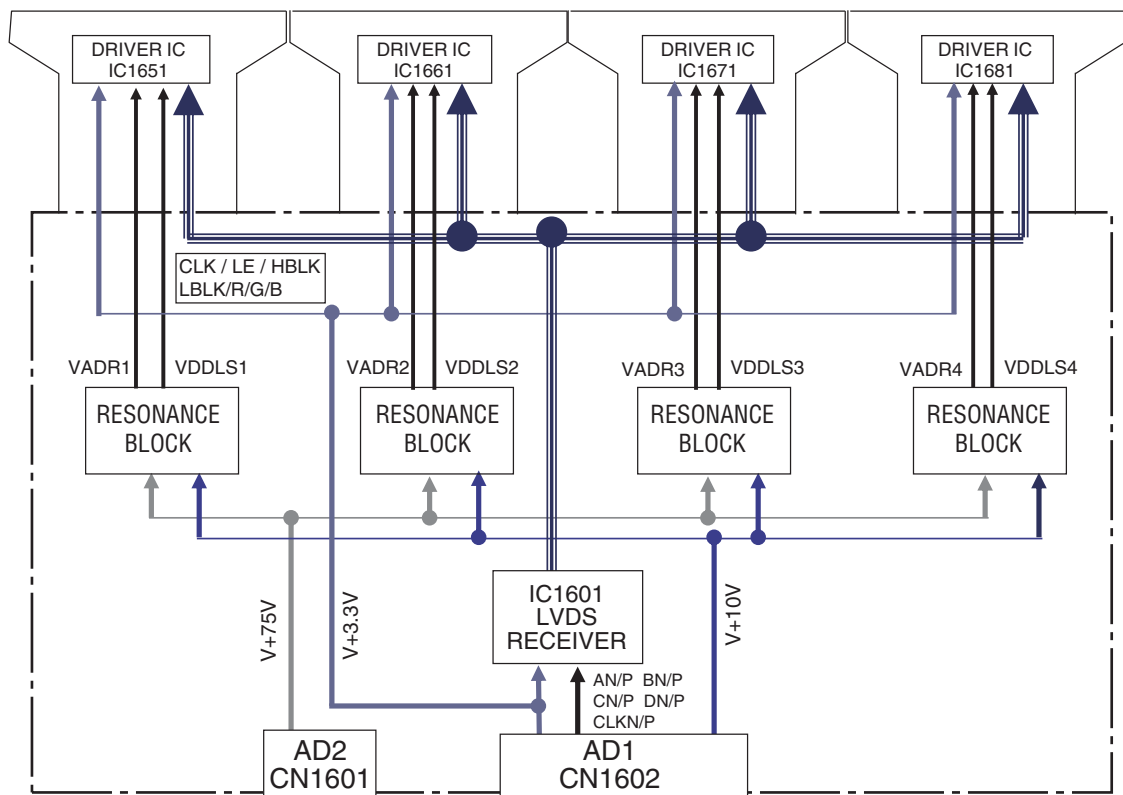
Note:
VYPRST, VSNOFS, VYKOF12, VYKOF3, VYKOF4
VKOF1 and VKOF2 voltages are electrical volume controls.

50F SCAN A, B ASSYS

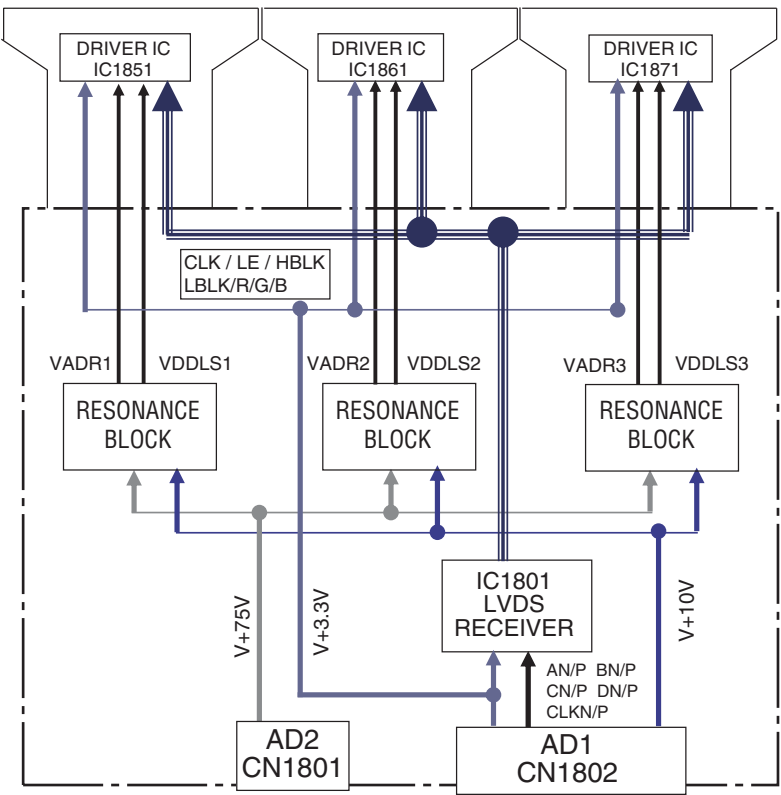


4.9 50F ADDRESS L and S ASSYS

50F ADDRESS L ASSY

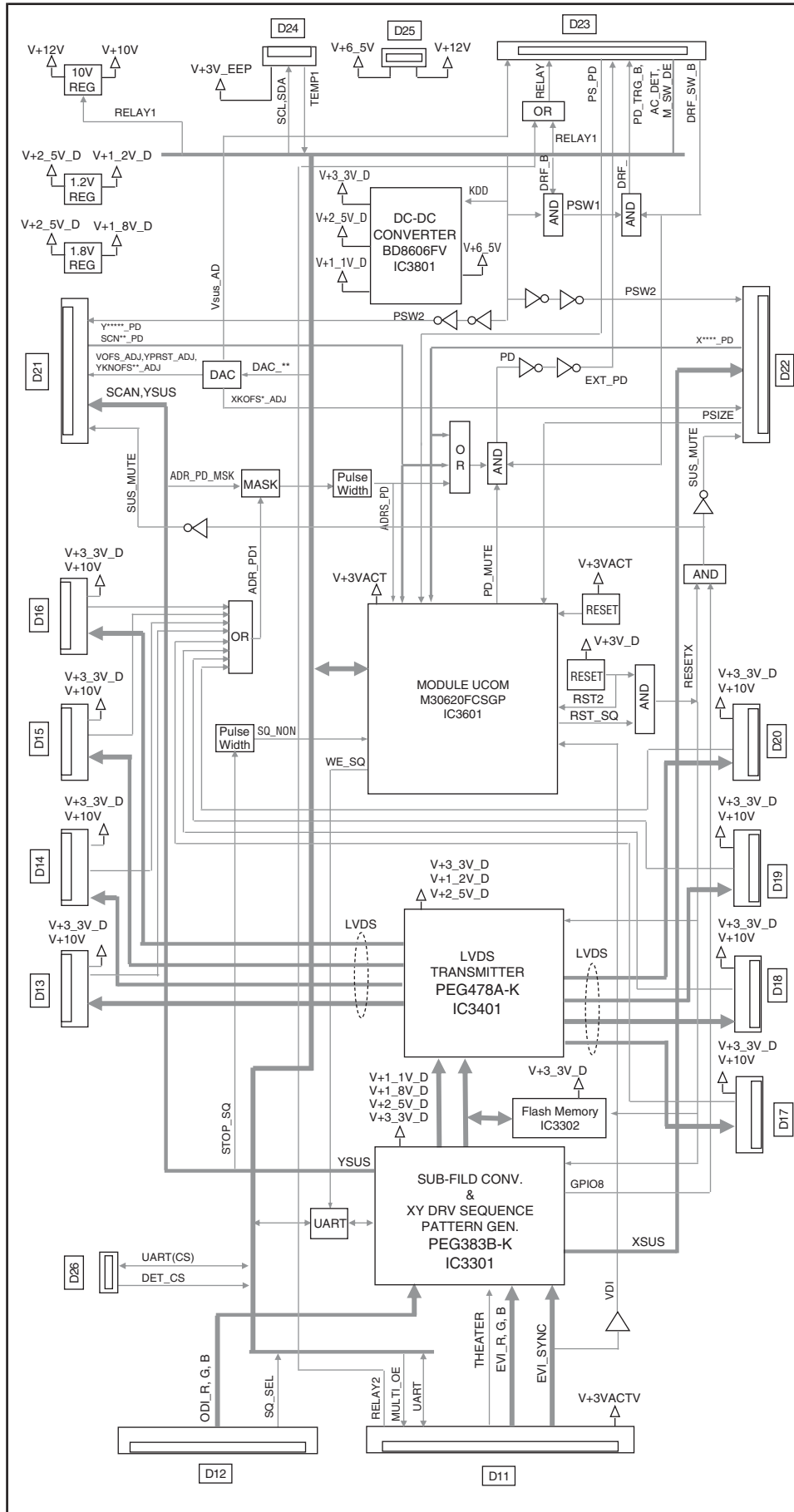


50F ADDRESS S ASSY



4.10 50F DIGITAL ASSY

50F DIGITAL ASSY



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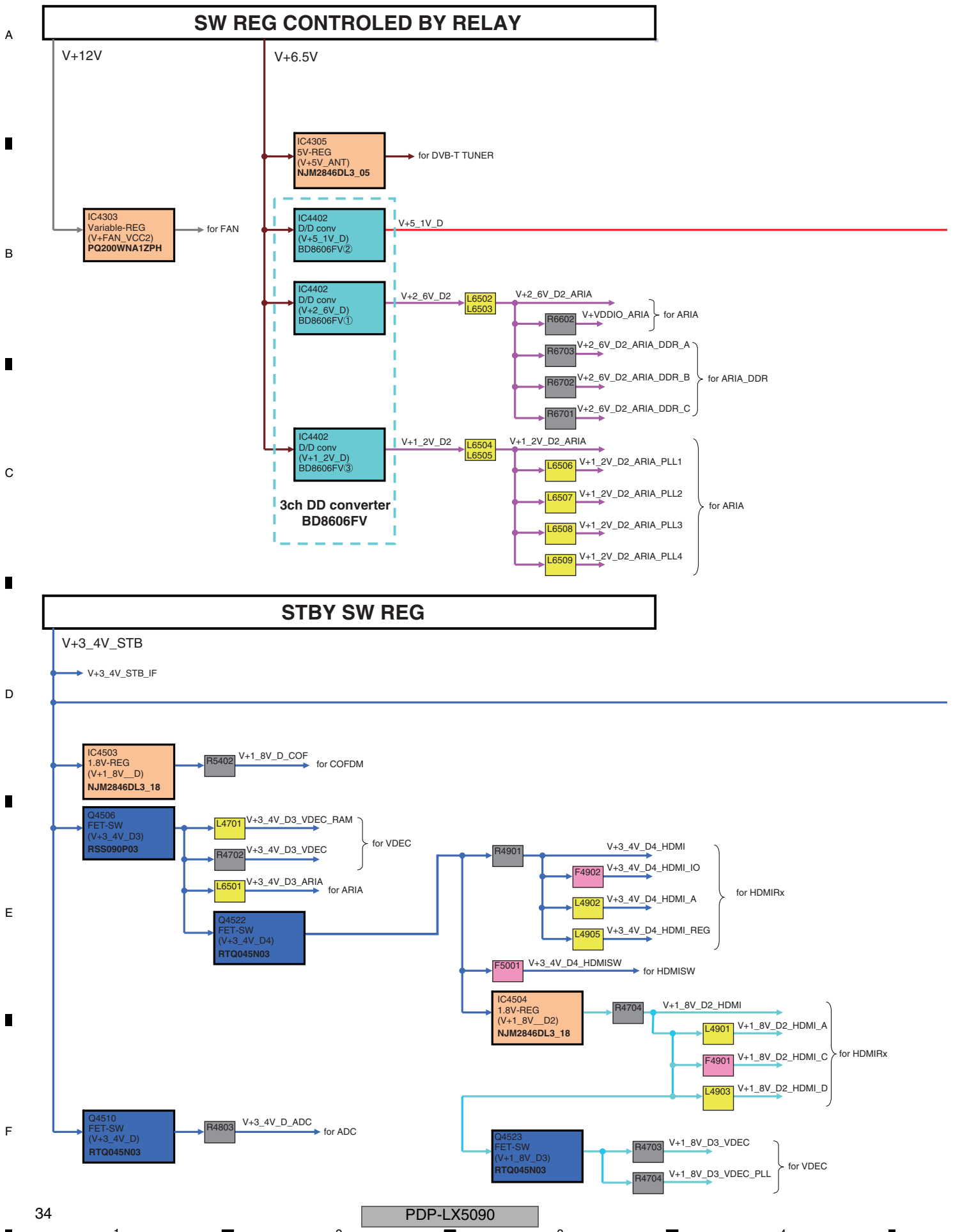
7

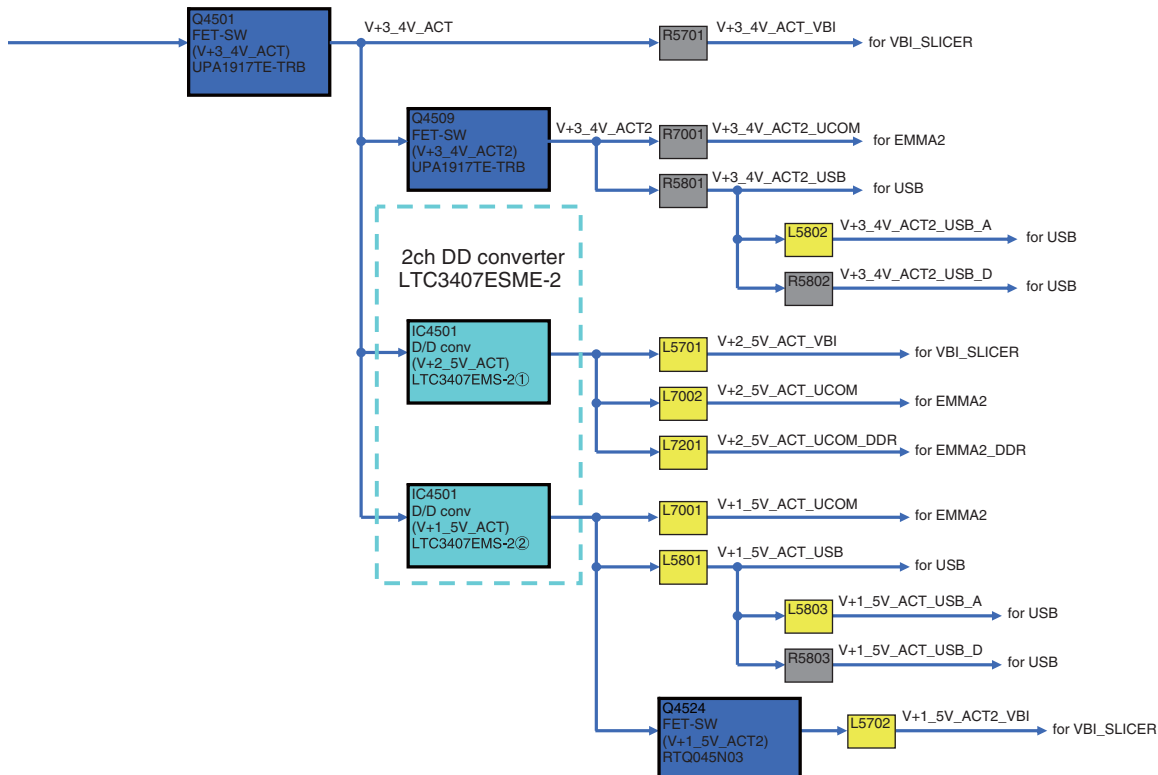
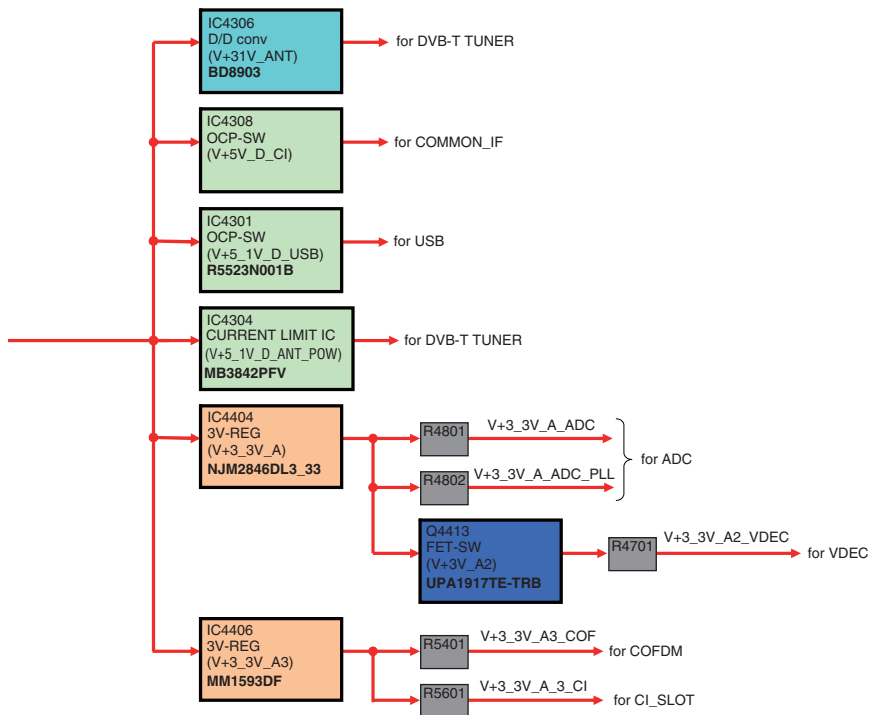
■

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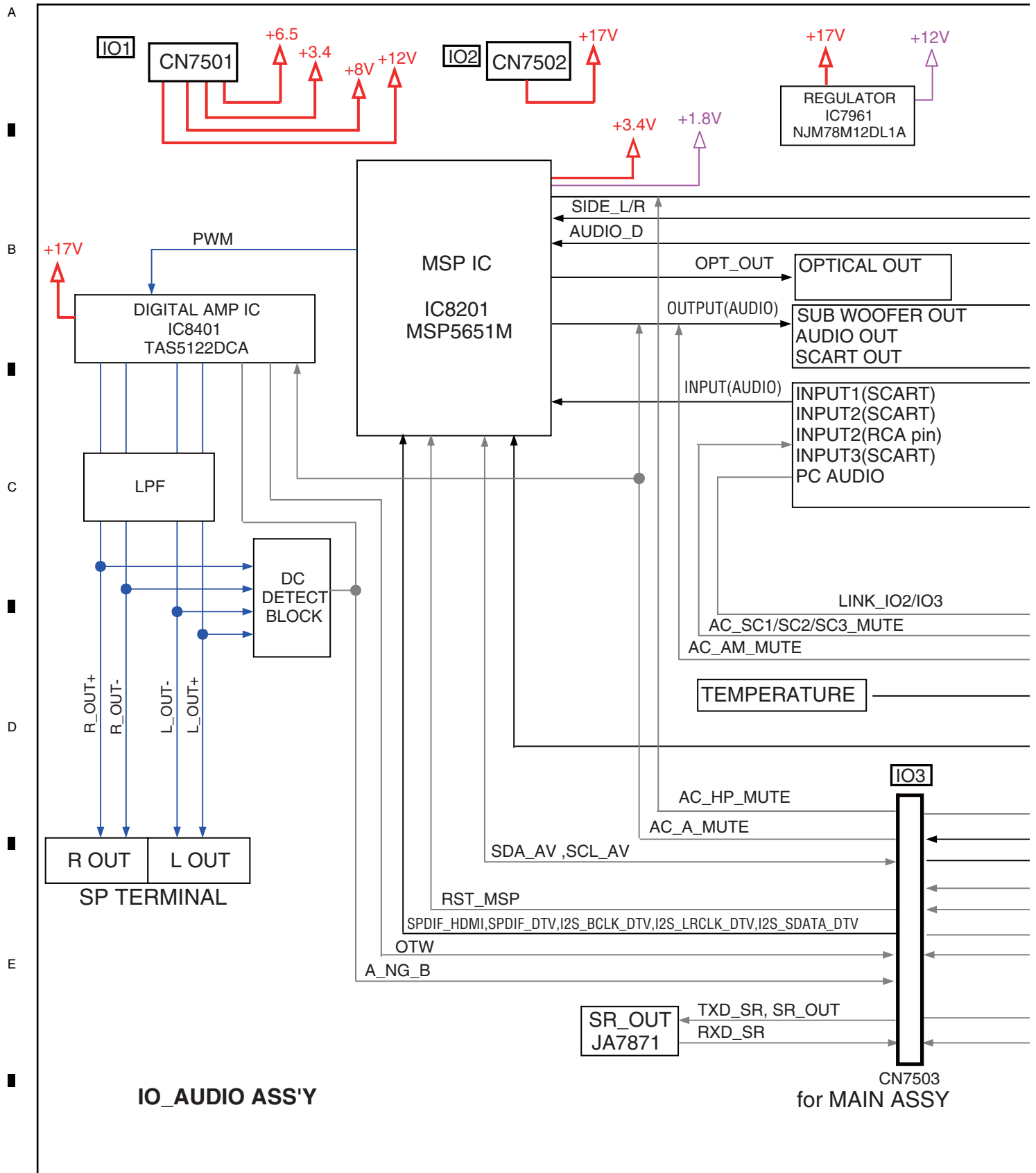
■

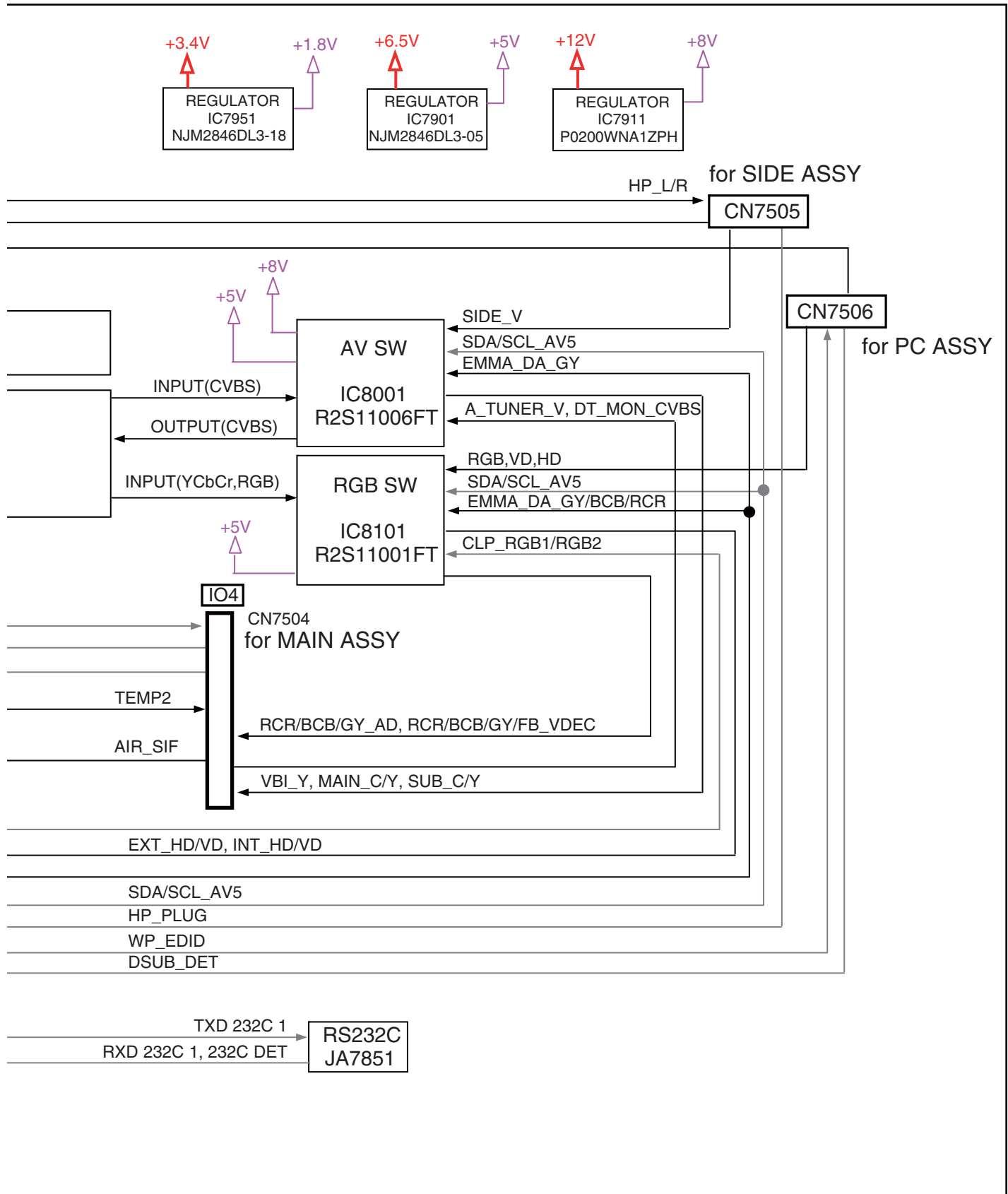
4.11 POWER SUPPLY BLOCK of MAIN ASSY



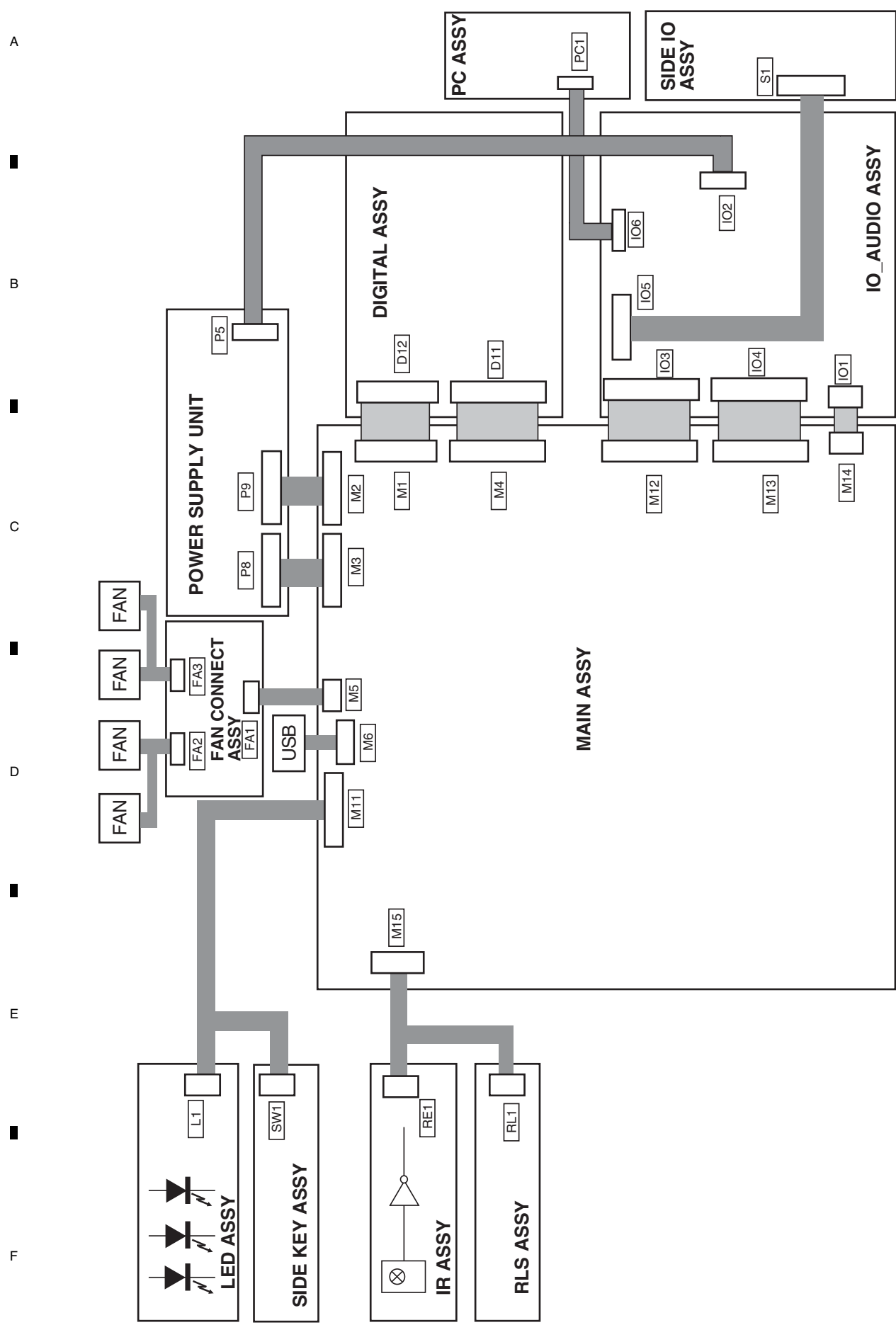


4.12 IO_AUDIO ASSY





4.13 LED and IR ASSYS



5. DIAGNOSIS

5.1 POWER SUPPLY OPERATION

[1] LED DISPLAY INFORMATION

LED Pattern

Status	LED	LED Pattern/Remarks					
AC OFF or Main Power Switch OFF	Blue Red Orange						
Standby Power Management	Blue Red Orange						
Power On	Blue Red Orange						
Power-Down	Blue Red Orange	Once 500ms	Twice	n times	2.5s	Once	*1
Shutdown	Blue Red Orange	500ms Once	Twice	n times	2.5s	Once	*2
Shutdown (Subcategory flashing)	Blue Red Orange	500ms Once 500ms	Twice	n times	2.5s	Once	*2 *3
No digital adjustment data copied for backup	Blue Red Orange						
Updating the PC	Blue Red Orange						
During factory operation	Blue Red Orange						
During DTB communication inhibit	Blue Red Orange						
During USB update	Blue Red Orange						
Updating of USB is finished normally.	Blue Red Orange						
Updating of USB is abnormally finished.	Blue Red Orange						
Sleep timer	Blue Red Orange						
During reservation video recording (Unit: Standby)	Blue Red Orange						
During reservation video recording (Unit: ON)	Blue Red Orange						

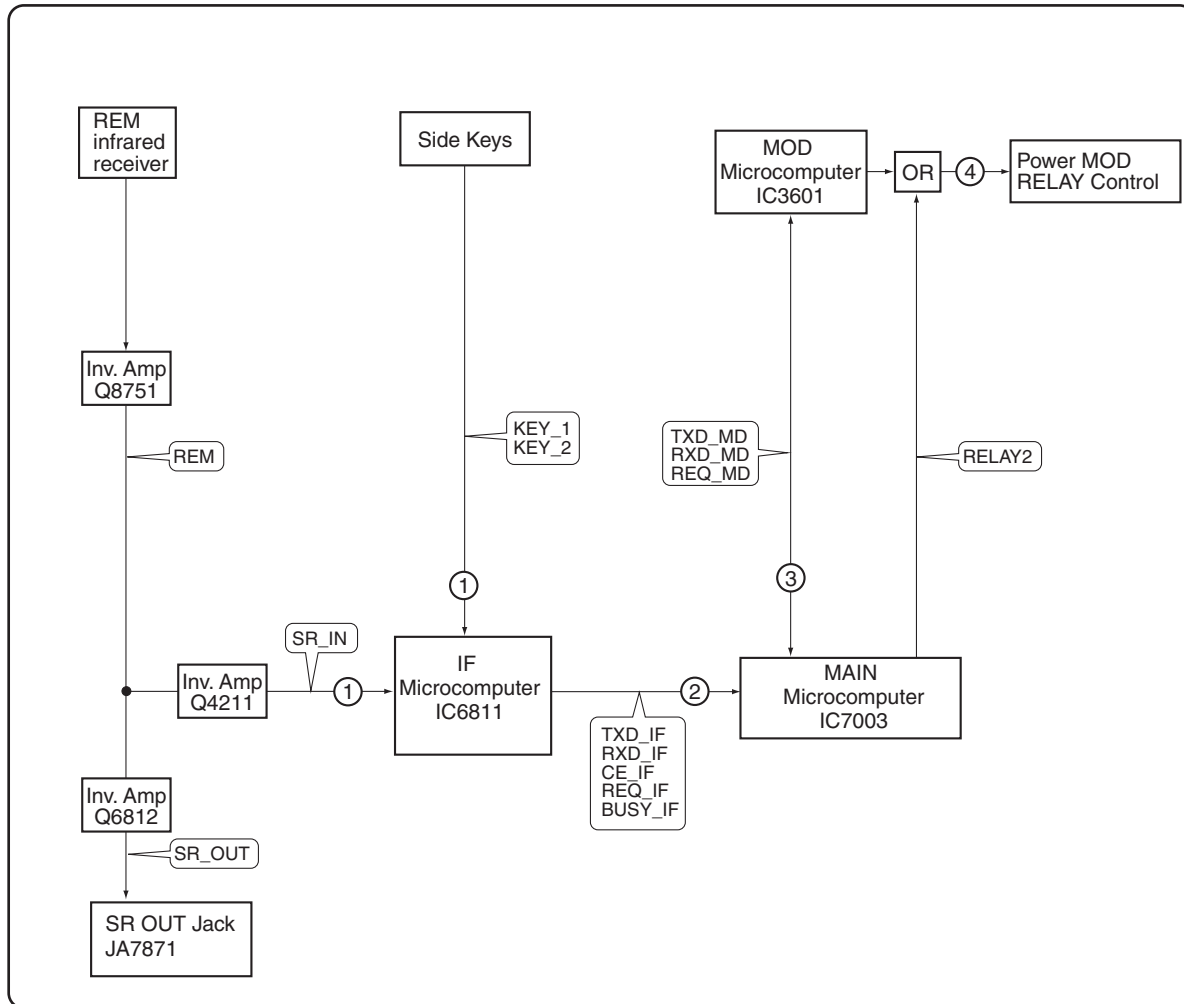
*1: Notify upon the power-down content by Red LED flashing number of times.
 *2: Notify upon the shutdown content by Blue LED flashing number of times
 *3: Notify upon the subcategory number by Orange LED flashing number of times.
 *4: PDP-LX5090H only
 *5: Notify upon the abnormal state by Orange LED flashing number of times.

POWER ON

STANDBY

TIMER

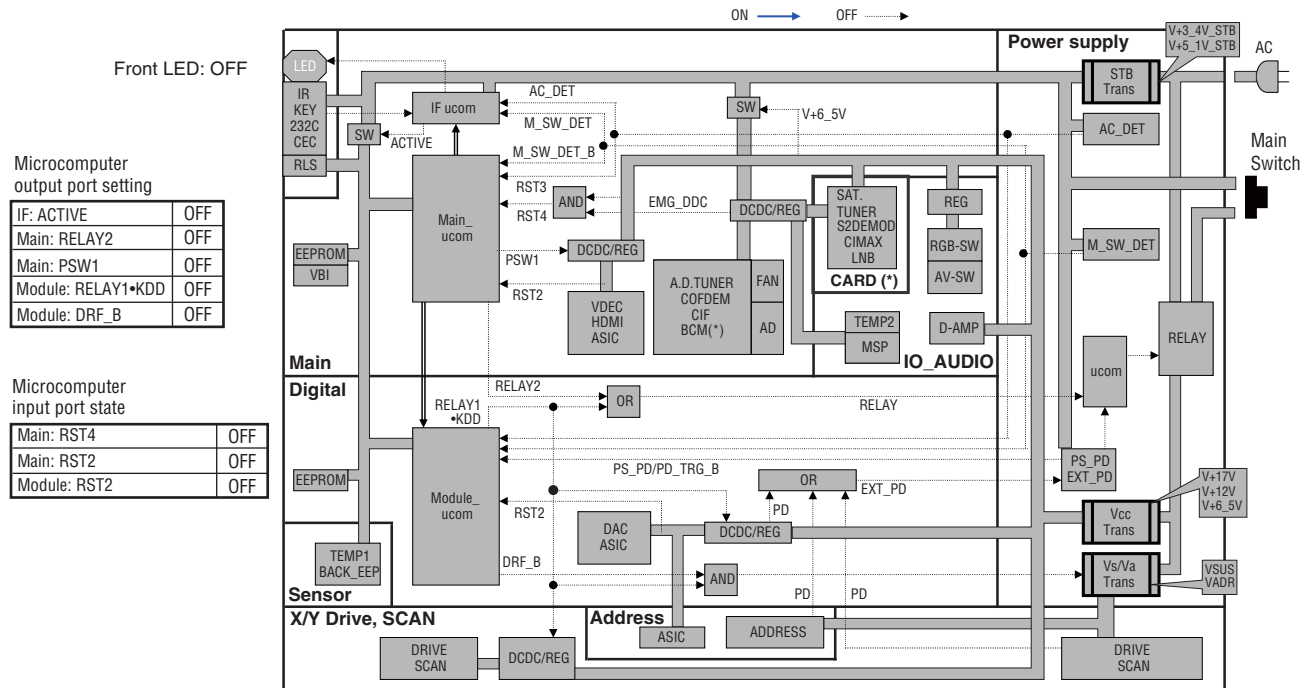
[2] POWER ON SEQUENCE



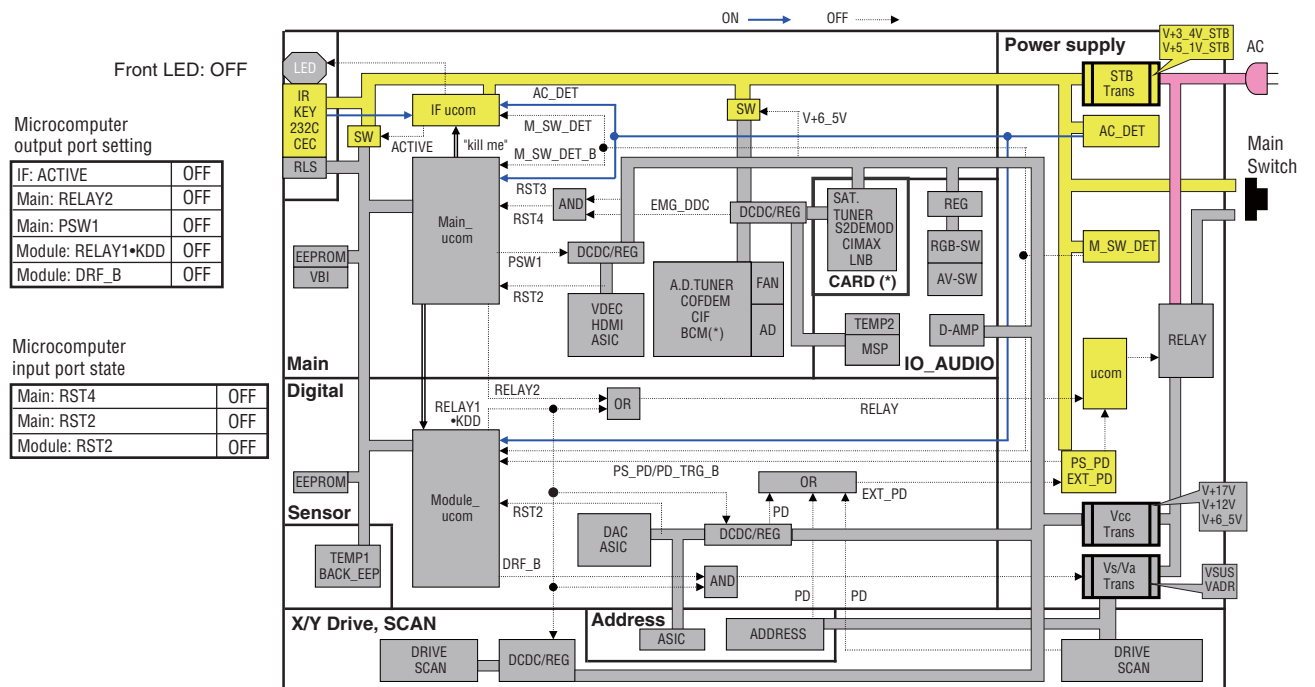
- ① : The remote control (or KEY) signal is input to the IF microcomputer.
- ② : The IF microcomputer sends the operation data of the remote control unit (or KEY) to the main microcomputer.
- ③ : The main microcomputer issues a startup command (PON) to the MOD microcomputer.
- ④ : The relay is controlled with logical OR interpretation of control signals by the main microcomputer and module (MOD) microcomputer.

[3] DETAILS OF POWER ON SEQUENCE

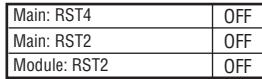
AC-OFF Main Power OFF, Passive Standby



AC-ON Main Power OFF, Passive Standby

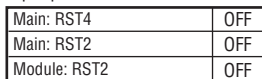


AC-ON Main Power OFF, Active Standby



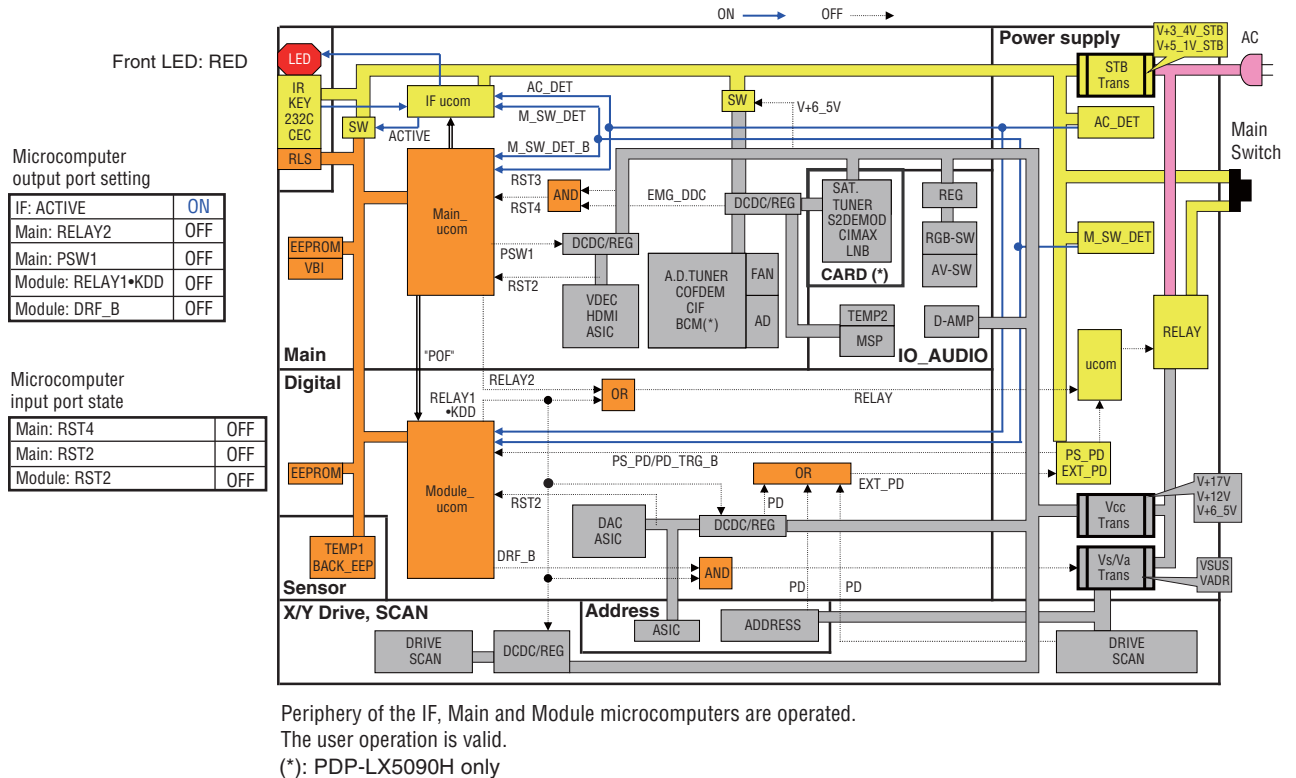
(*): PDP-LX5090H only

AC-ON Main Power ON, Passive Standby

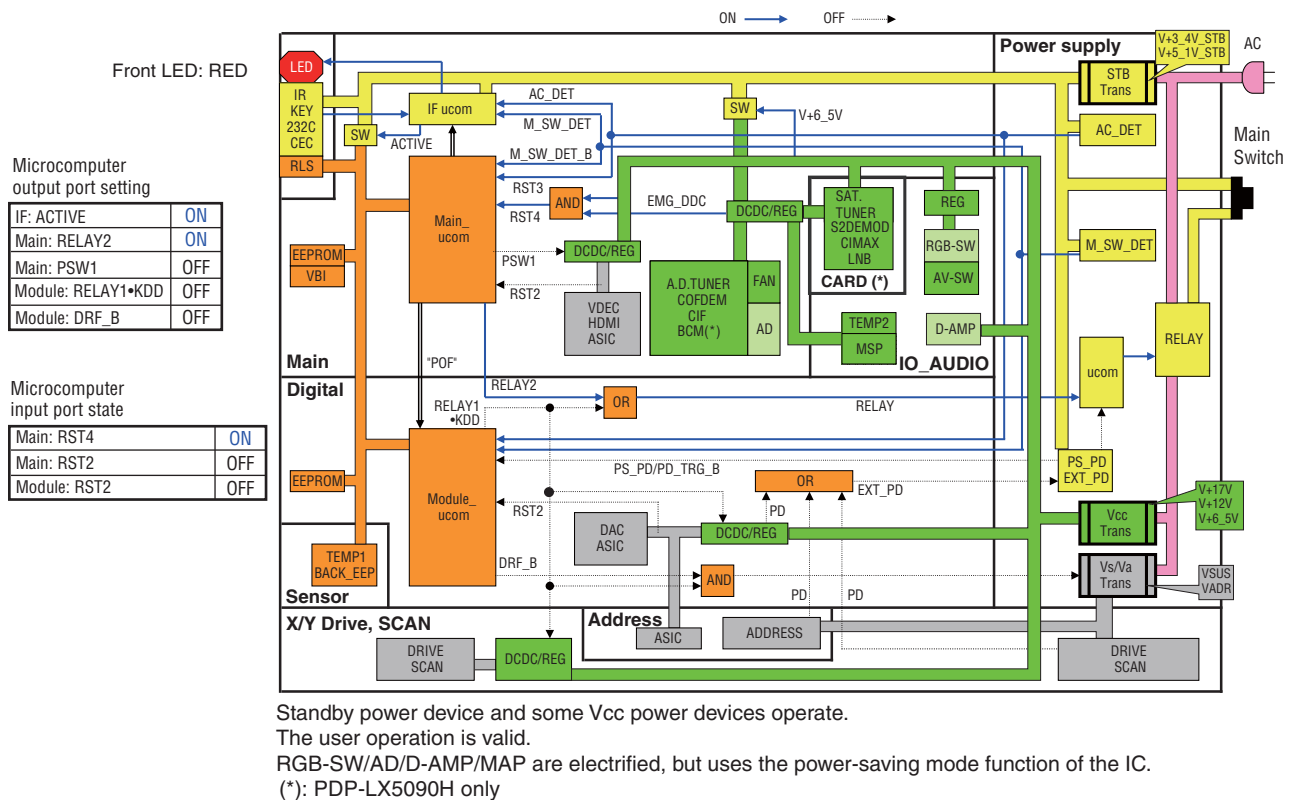


(*): PDP-LX5090H only

AC-ON Main Power ON, Active Standby



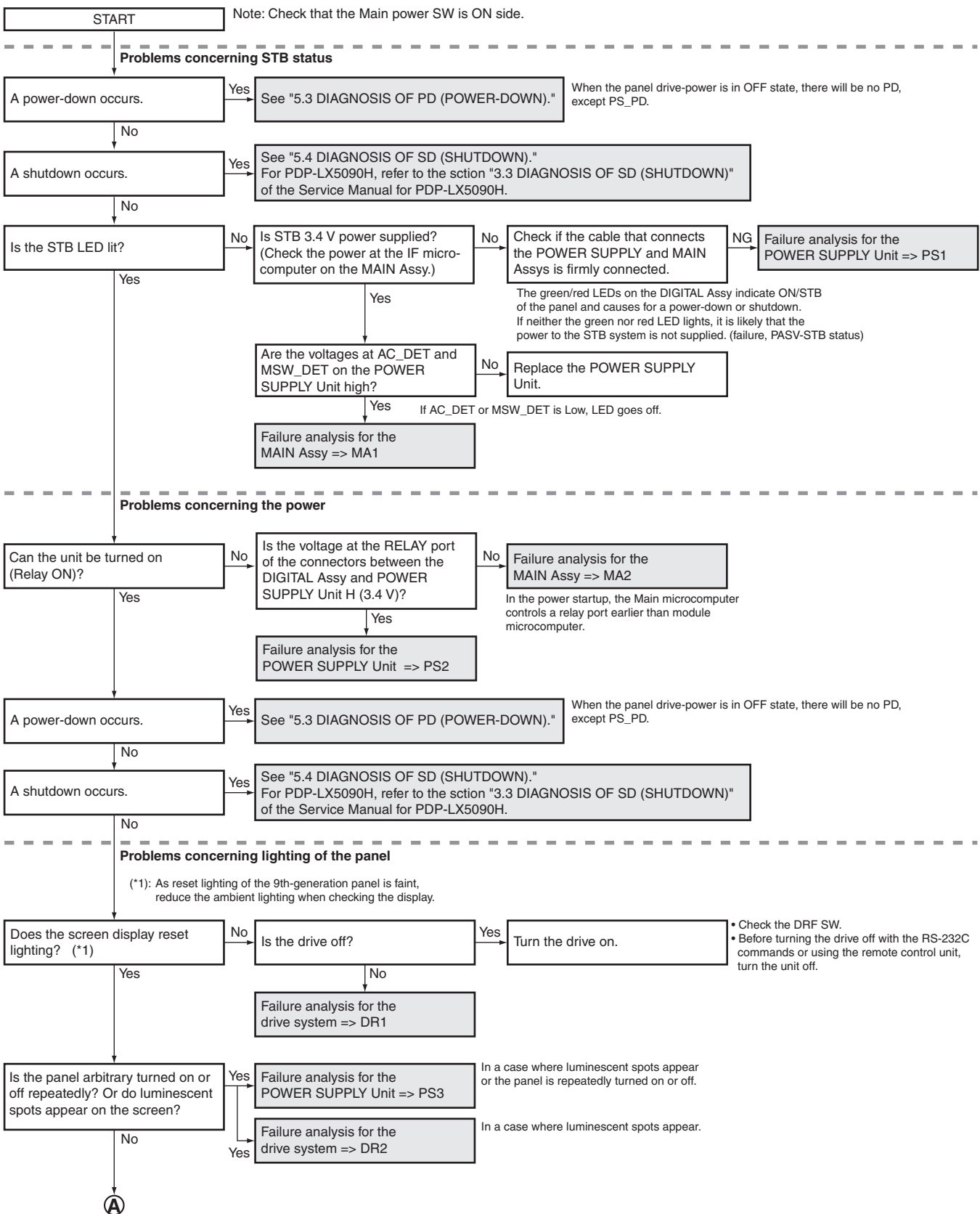
AC-ON Main Power ON, Function Standby



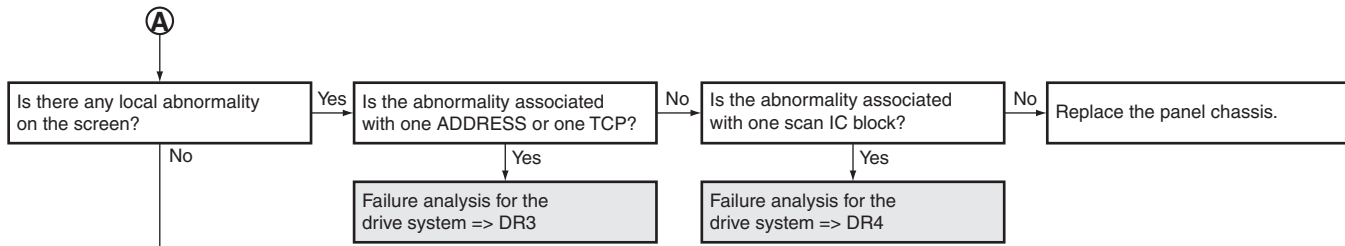
5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

[1] WHOLE UNIT

Flowchart of Failure Analysis for The Whole Unit



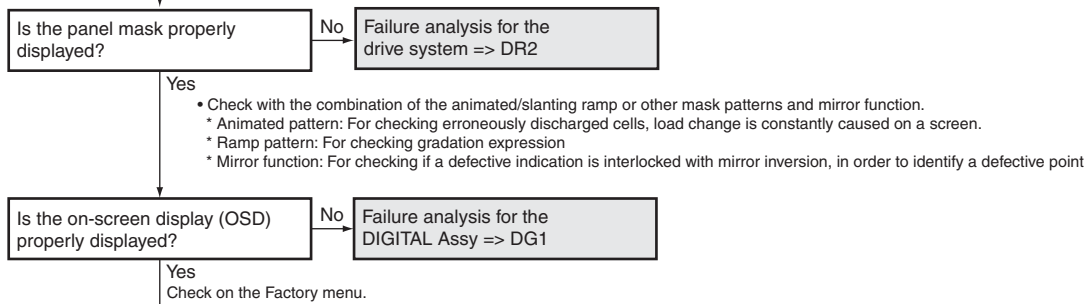
A



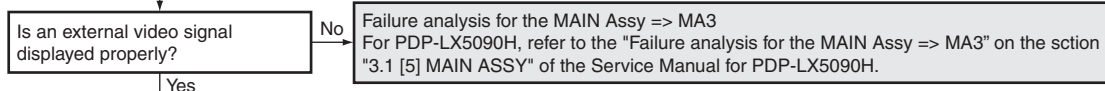
In the subsequent diagnostic steps, it is most likely that the multi base section is in failure.

B

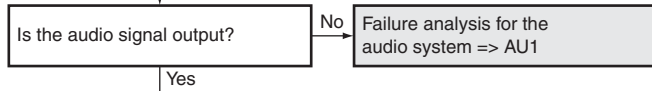
Problems concerning video display



C



Problems concerning the audio output



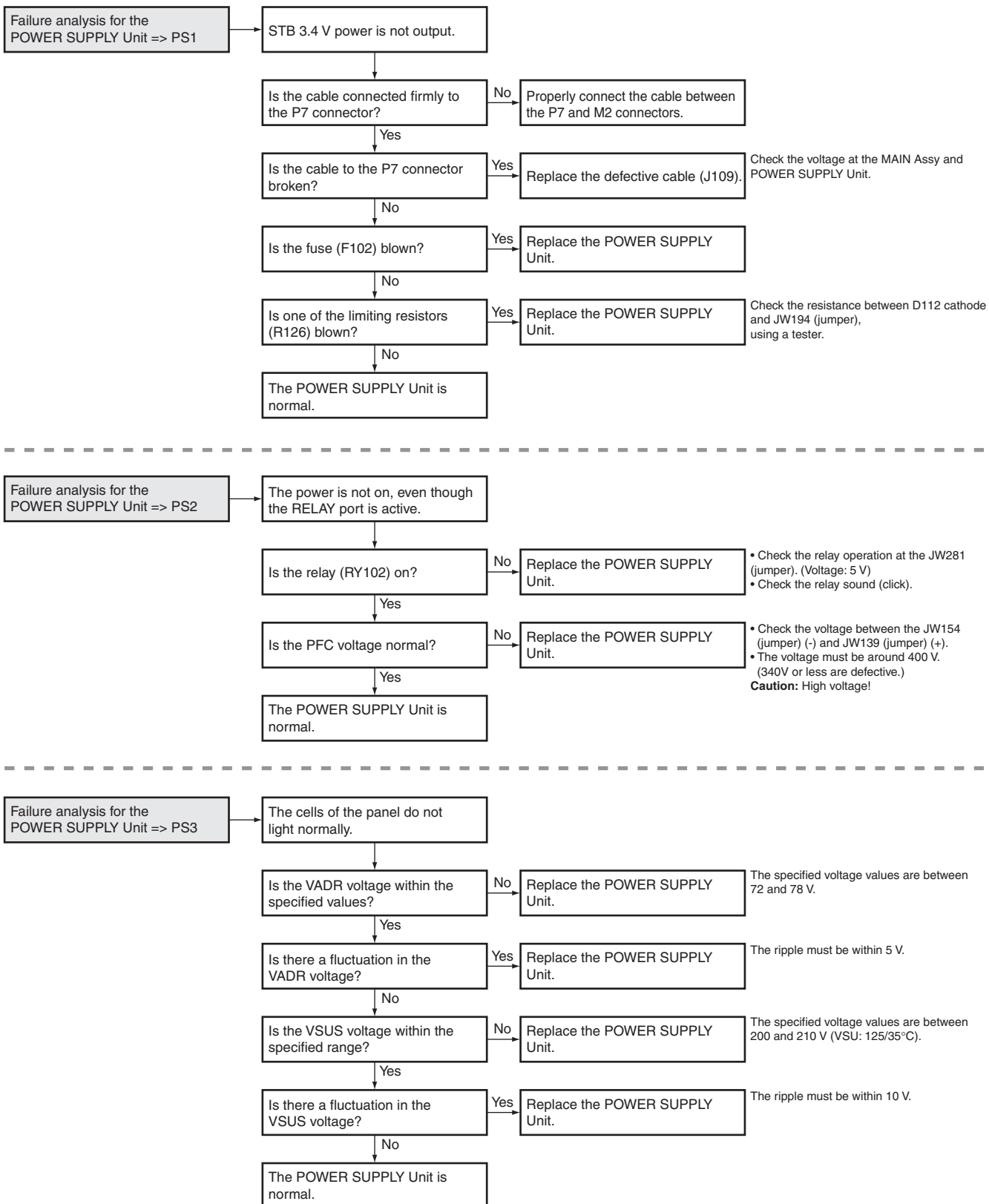
D

E

F

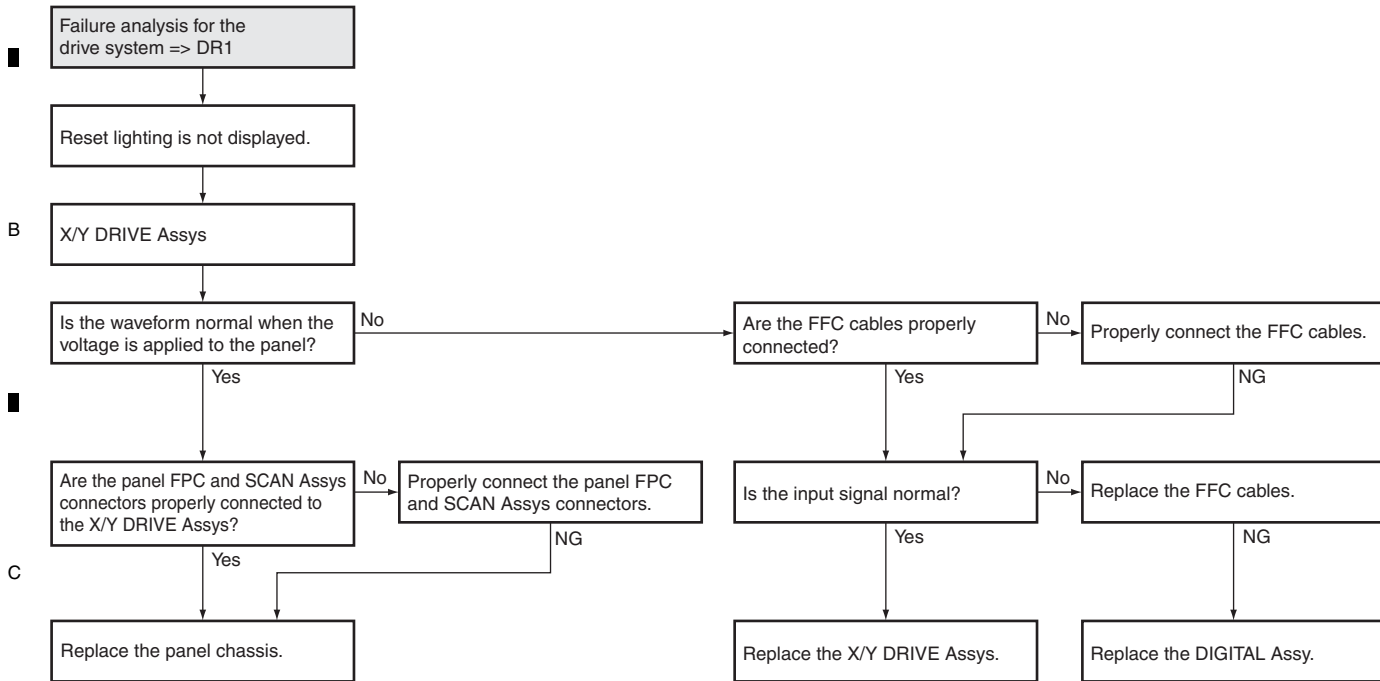
[2] POWER SUPPLY UNIT

Flowchart of Failure Analysis for The POWER SUPPLY Unit



A [3] DRIVE ASSY

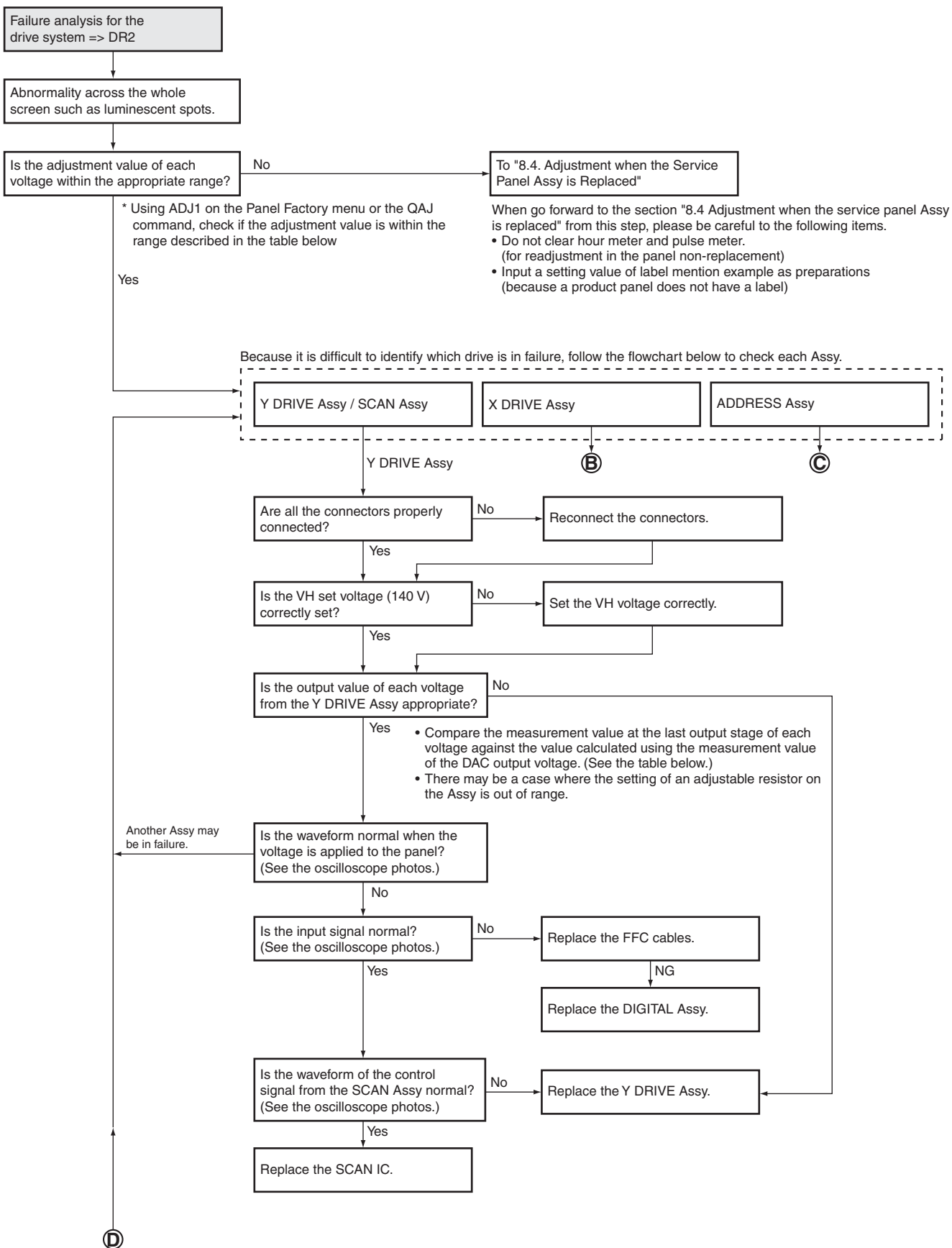
Flowchart of Failure Analysis for The Drive Assy



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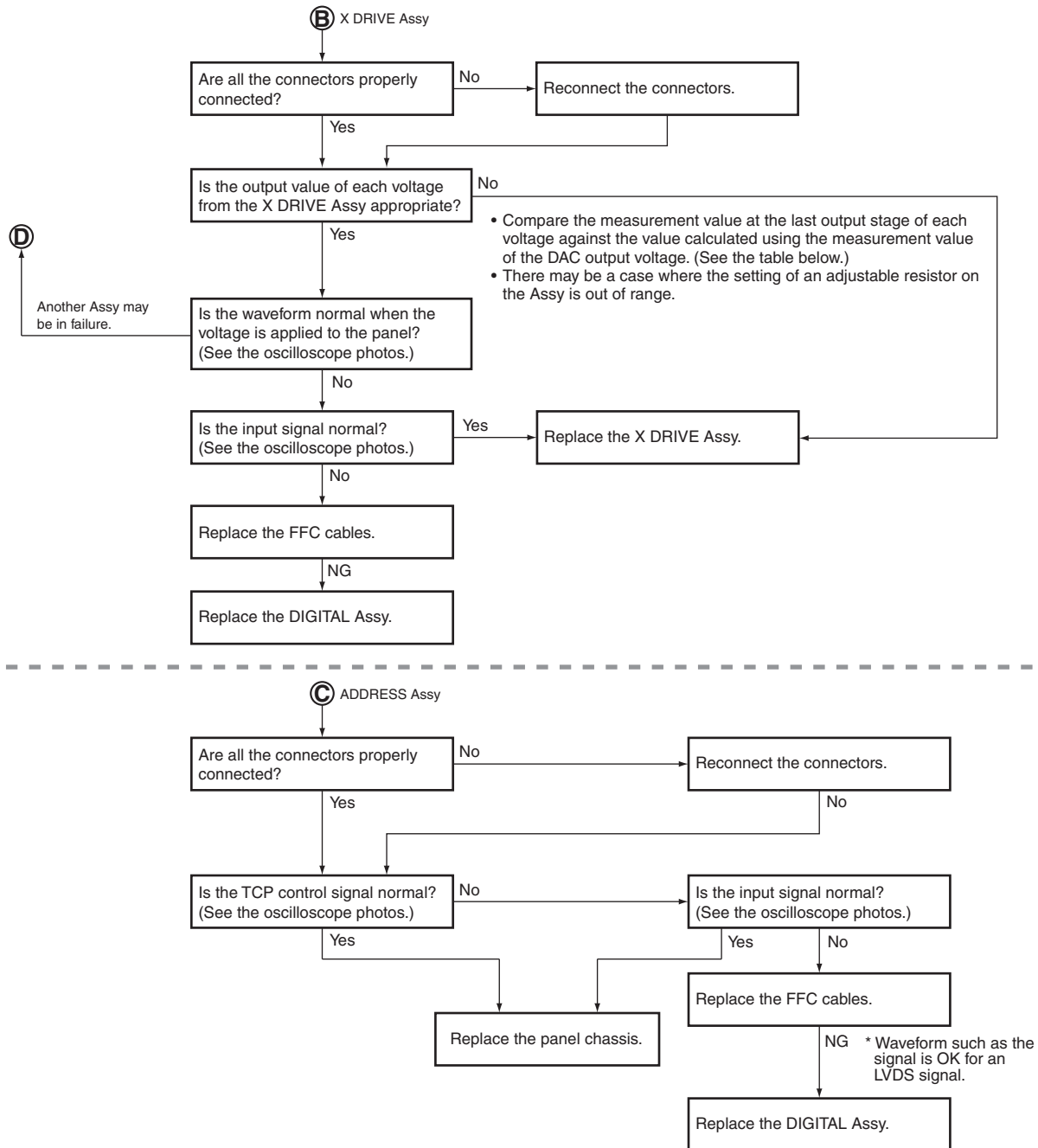
B

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Assy Name	Voltage to be Checked (V)	Adjustable Range		Measurement Point		Computation Formula for Voltage (Absolute Value)	
		60-inch	50-inch	Output at the Last Stage	DAC Output (*2)	Computation Using DAC Output Voltage (V)	Computation Using Adjustment Value (*4)
Y DRIVE Assy	VSNOFS	040 to 085	101 to 157	CN2404 (*1)	Lower side of R2723 (*3)	$VOFS_ADJ \times 13.91 + 55.54$	$VOF \text{ value} \times 0.18 + 9.6$
	VYRST	001 to 056	001 to 074	CN2401 (*1)	Upper side of R2621 (*3)	$VYPRST_ADJ \times 62.495 + 75.2$	$VRP \text{ value} \times 0.81 + 74.4$
	VKN0FS1_2	054 to 107	121 to 164	CN2405 (*1)	Left side of R2754 (*3)	$YVKN0FS1_ADJ \times 36.85 + 159.3$	$(V1F \text{ value} + VYF \text{ value} - 128) \times 0.48 + 158.8$
	VKN0FS3	065 to 117	107 to 149	CN2403 (*1)	Right side of R2757 (*3)	$YVKN0FS3_ADJ \times 36.85 + 159.3$	$(V3F \text{ value} + VYF \text{ value} - 128) \times 0.48 + 158.8$
	VKN0FS4	111 to 164	151 to 193	CN2406 (*1)	Right side of R2755 (*3)	$YVKN0FS4_ADJ \times 36.85 + 159.3$	$(V4F \text{ value} + VYF \text{ value} - 128) \times 0.48 + 158.8$
X DRIVE Assy	XK0FS1	105	085	CN1302 (*1)	K1402 (*1)	$XKNOFS1_ADJ \times 27.3 + 30$	$VX1 \text{ value} \times 0.35 + 29.7$
	XK0FS2	063	047	CN1301 (*1)	K1401 (*1)	$XKNOFS2_ADJ \times 25.0 + 69.8$	$VX2 \text{ value} \times 0.32 + 69.5$

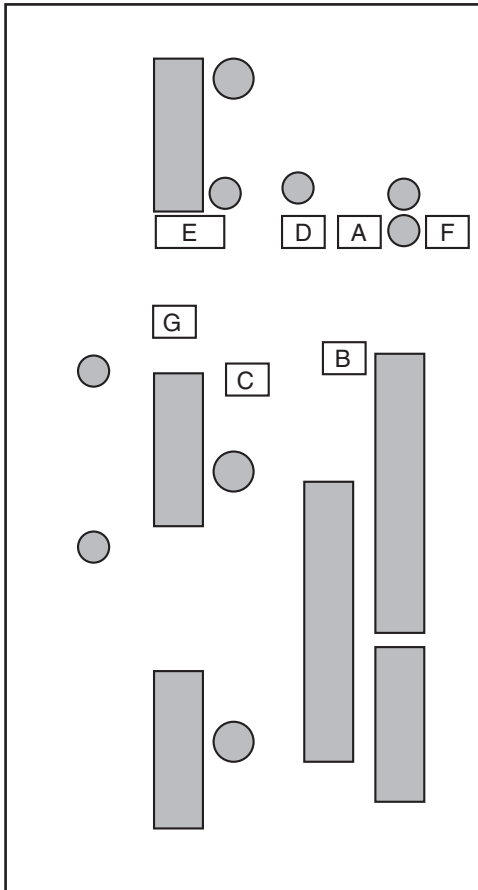
(*1): These parts have not been mounted.

(*2): It is recommended to measure the DAC output voltage with the drive off.

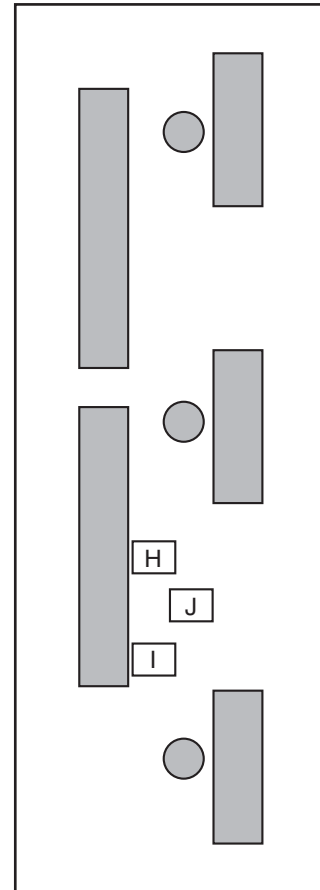
(*3): View when the Assy is mounted on the unit and viewed from the rear.

(*4): The value calculated using an adjustment value may be different from the value measured at the last output stage, because various corrections such as temperature correction are not taken into consideration.

Diagrammatic view of the Y DRIVE Assy



Diagrammatic view of the X DRIVE Assy



A	R2754,R2755,R2757
B	R2723
C	R2621
D	CN2405
E	CN2403,CN2406
F	CN2404
G	CN2401
H	K1401
I	K1402
J	CN1301,CN1302

A

Failure analysis for the drive system => DR3

Diagnose the ADDRESS Assy.

The abnormality is associated with one ADDRESS or one TCP.

Is the TCP control signal normal?

No

Are the FFC cables properly connected?

No

Properly connect the FFC cables.

Yes

Yes

NG

B

Replace the panel chassis.

NG

Replace the DIGITAL Assy.

If the FFC cable that connects the DIGITAL and ADDRESS Assys is in failure, the abnormality is associated with one address in most cases.

In most cases of damage on one line, the panel chassis must be replaced.

C

Failure analysis for the drive system => DR4

Diagnose the SCAN Assy.

The abnormality is associated with a single scan line.

Is the waveform normal when the voltage is applied to the panel?
(See the oscilloscope photos.)

No

Is the 15P connector connected properly to the socket?

No

Reconnect the connector properly.

Yes

Yes

NG

Is the waveform of the SCAN IC control signal from the Y DRIVE Assy normal?

No

Replace the Y DRIVE Assy.

Yes

Replace the SCAN IC.

NG

Replace the panel chassis.

D

Note 1:

In a case where confirmation of the waveform for a particular line is impossible with an oscilloscope, it is possible to identify a defective line by lighting a particular line, using the following commands: (The SCAN IC outputting each line refers to the table.)

PON
FAY
MKRS01
BSMS01 (Command for reducing phosphor burn-in)
\$250000**** (In place of ****, input a figure between 0001 and 1080, which denotes an ordinal number of a particular line.)

With the above commands, a particular line lights. Be careful to light a line for as short a time as possible, to avoid phosphor burn-in.
After a particular line is identified, display an all-white screen to protect the screen from burn-in.

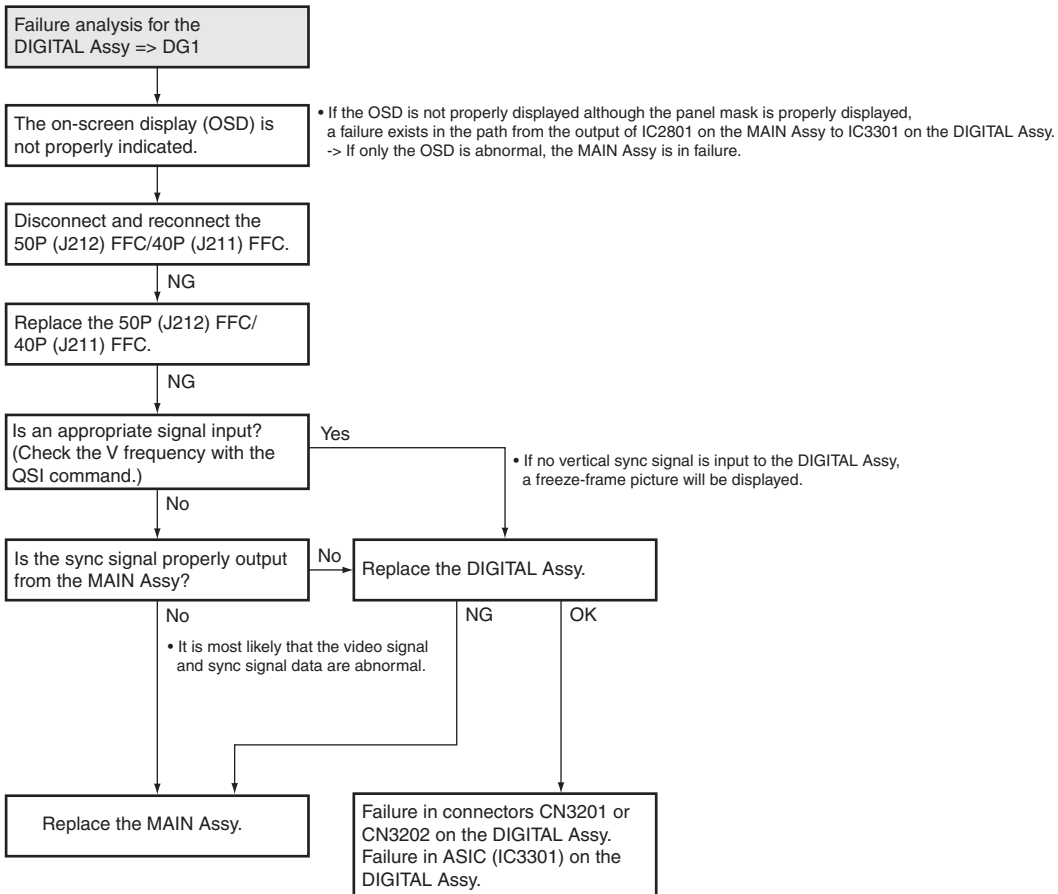
E

IC No.	Line Number	Object Line
No 1	66	0001 to 0066
No 2	68	0067 to 0134
No 3	68	0135 to 0202
No 4	68	0203 to 0270
No 5	68	0271 to 0338
No 6	68	0339 to 0406
No 7	68	0407 to 0474
No 8	66	0475 to 0540
No 9	66	0541 to 0606
No 10	68	0607 to 0674
No 11	68	0675 to 0742
No 12	68	0743 to 0810
No 13	68	0811 to 0878
No 14	68	0879 to 0946
No 15	68	0947 to 1014
No 16	66	1015 to 1080

F

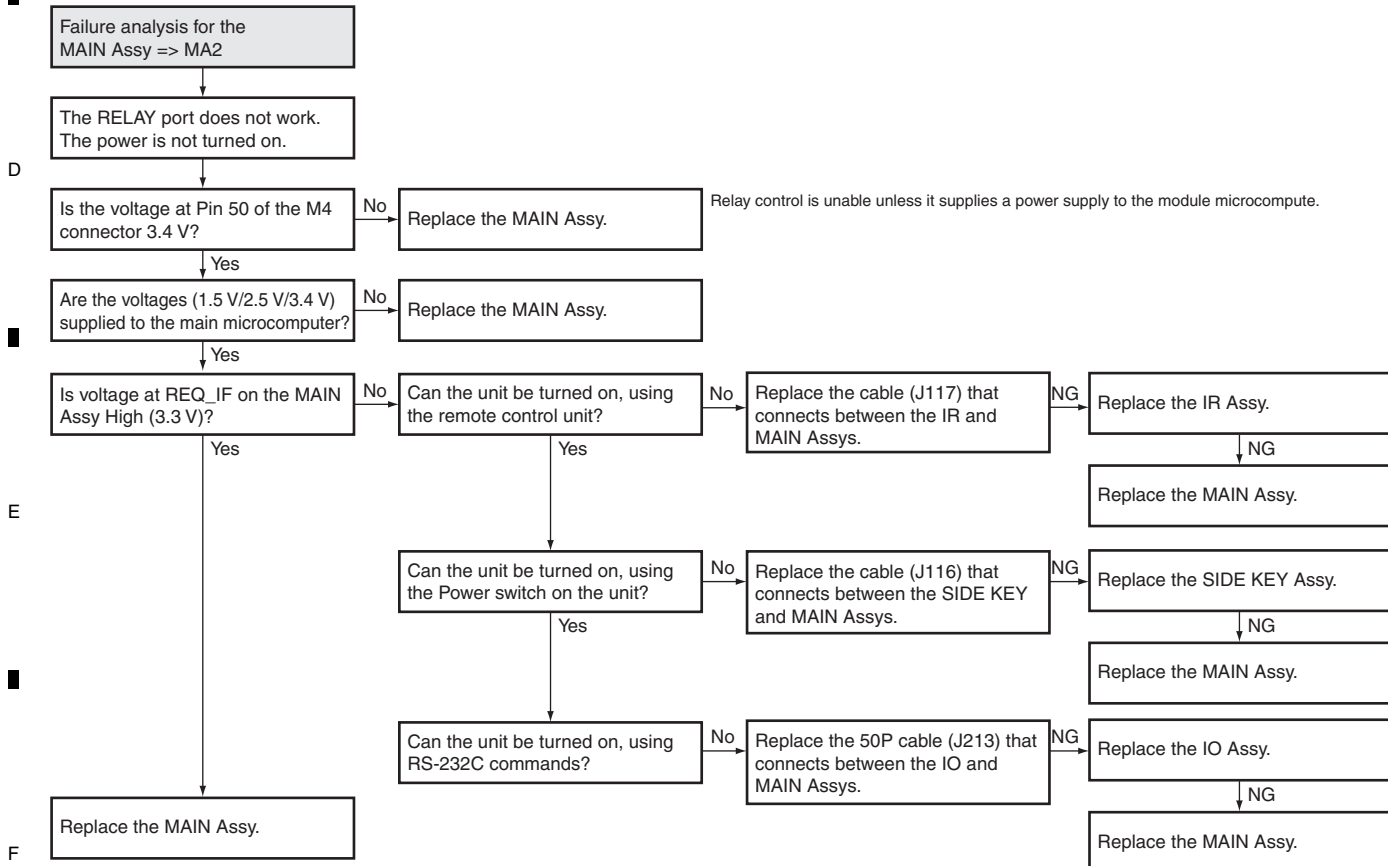
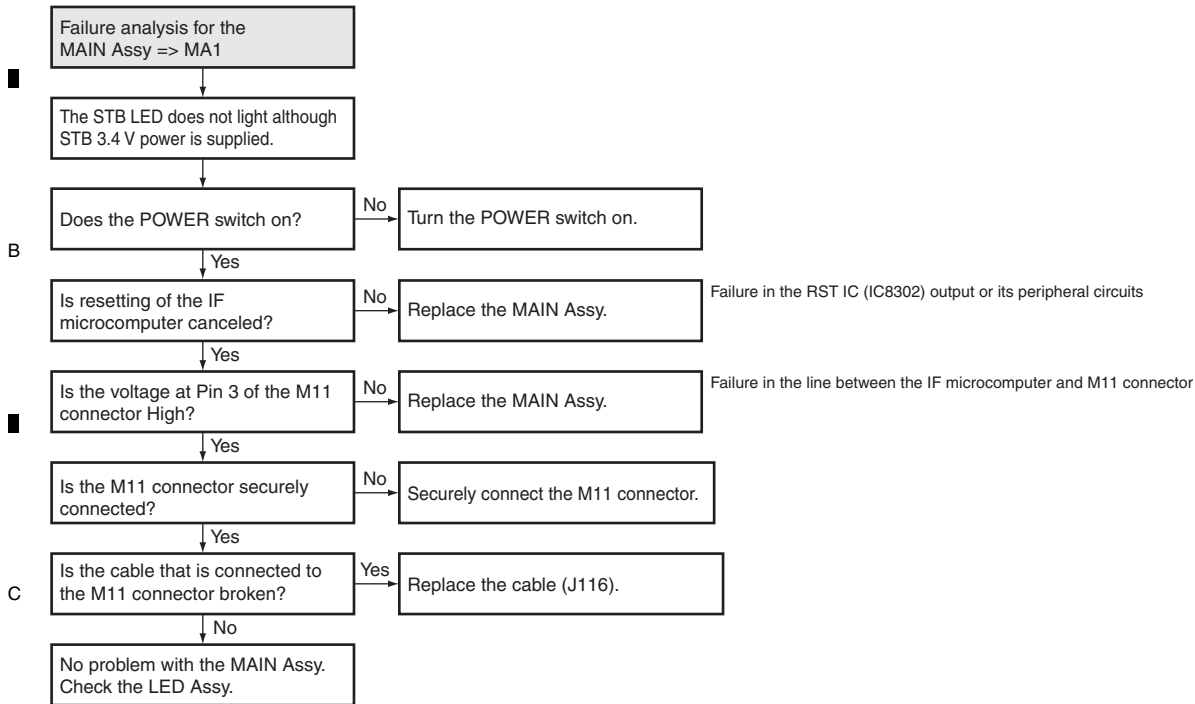
[4] DIGITAL ASSY

Flowchart of Failure Analysis for The DIGITAL Assy

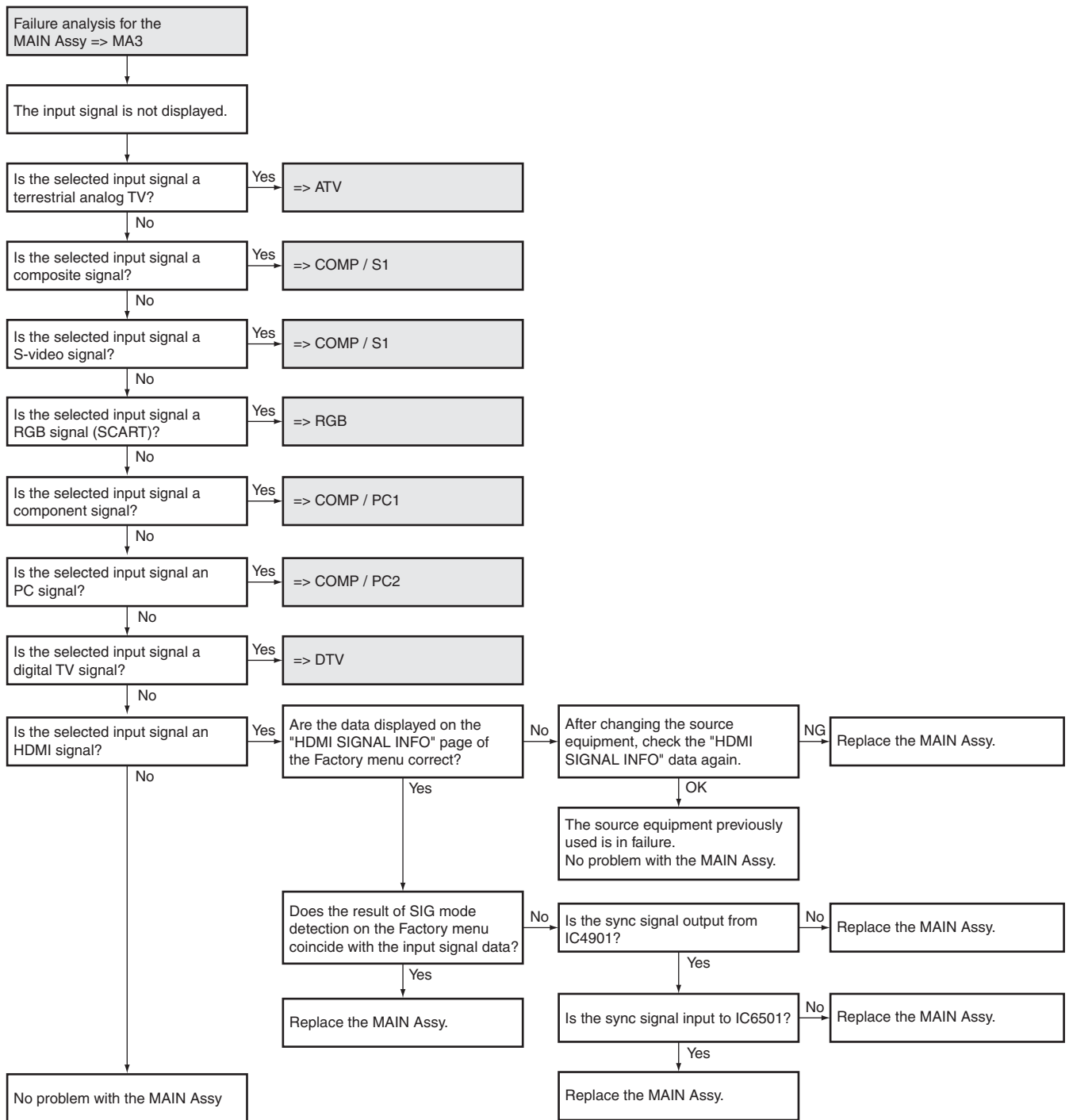


A [5] MAIN ASSY

Flowchart of Failure Analysis for The MAIN Assy

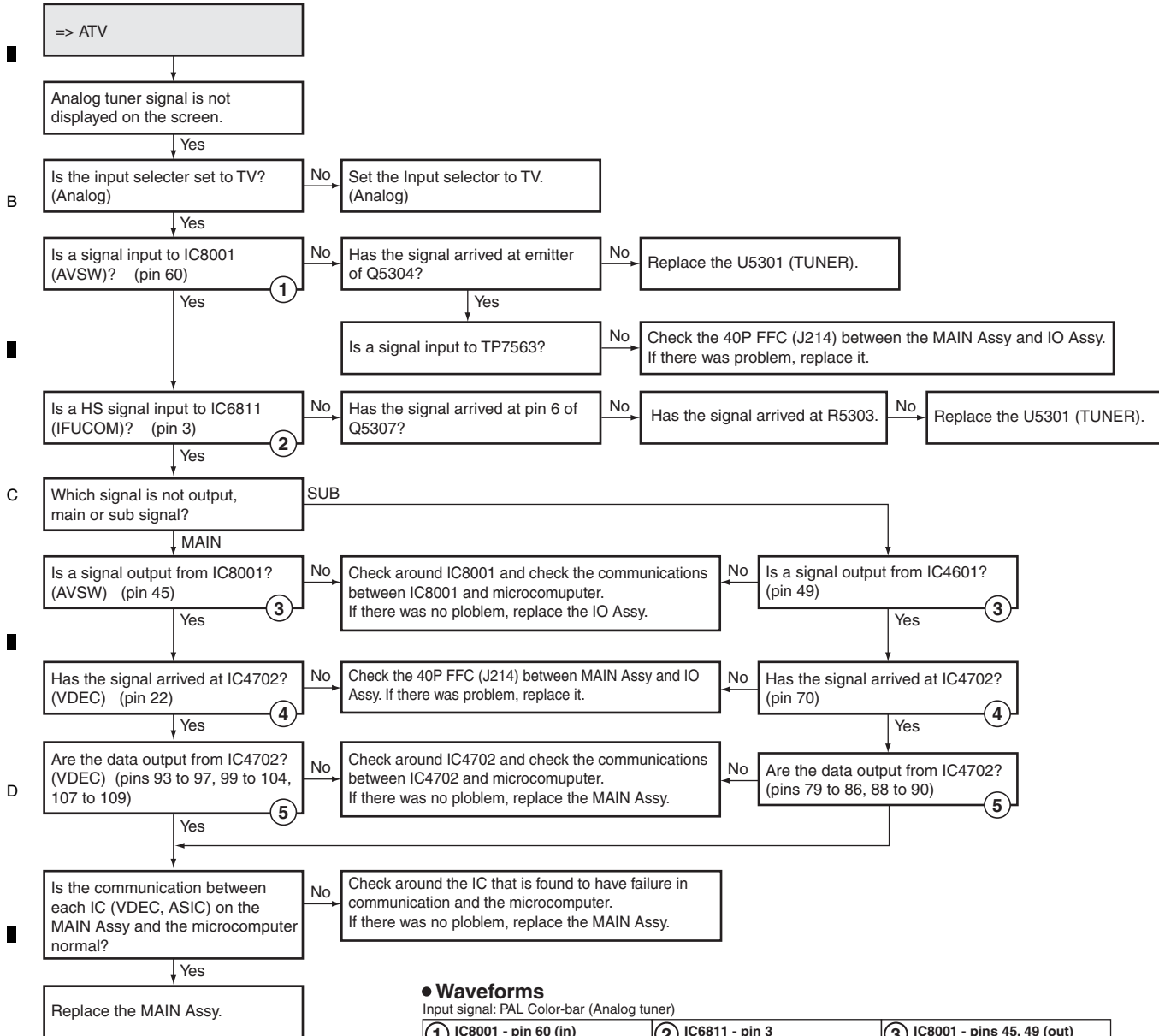


Flowchart of Failure Analysis for The Video System



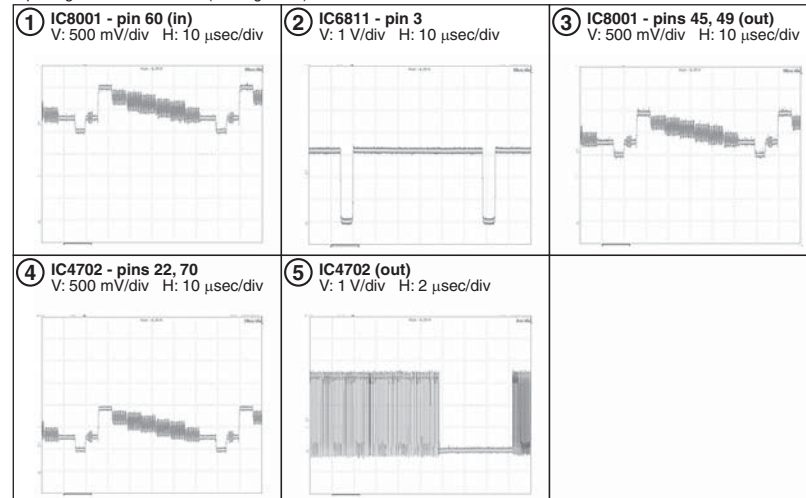
A [6] VIDEO SYSTEM

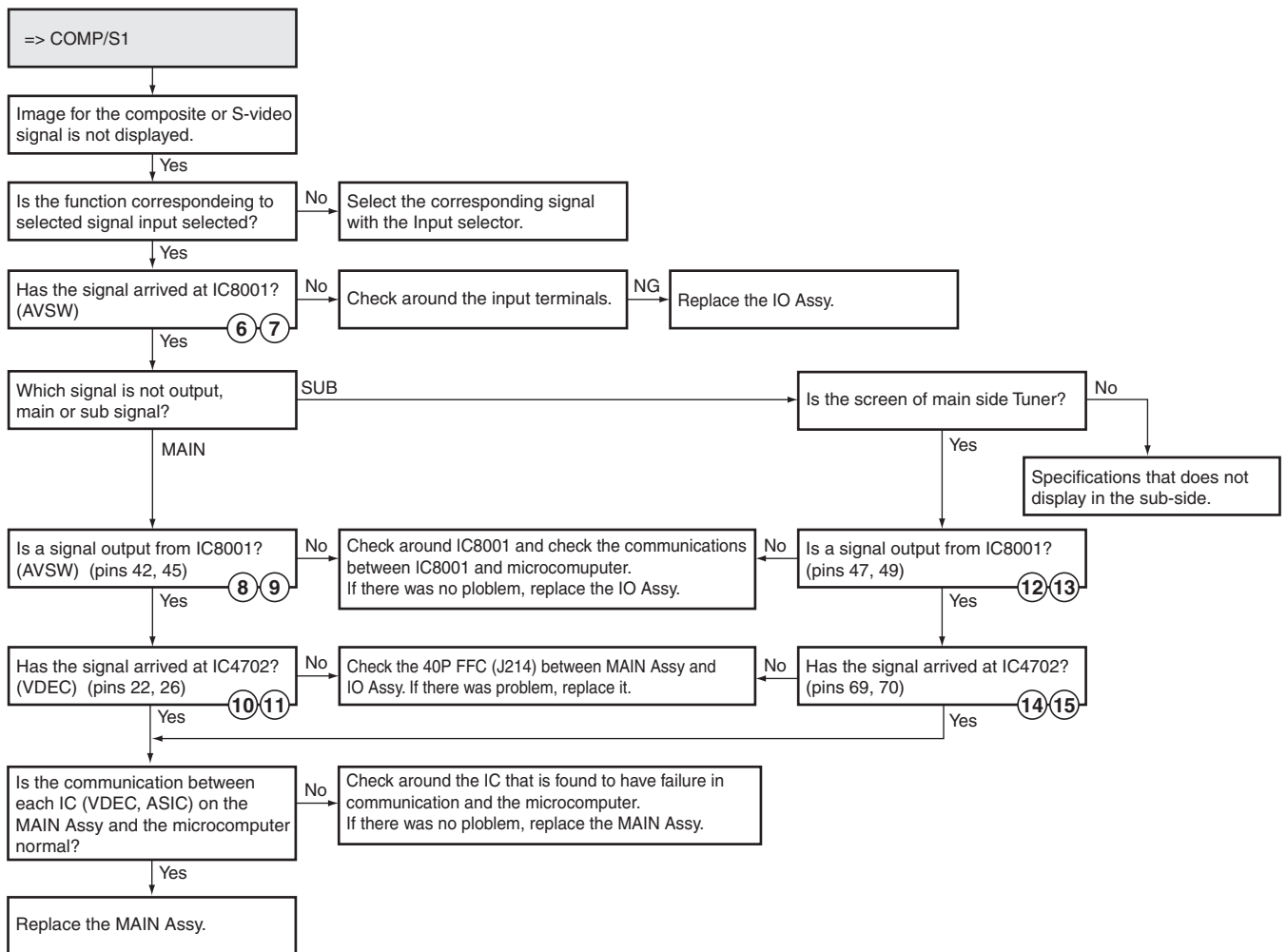
Flowchart of Failure Analysis for The Video System



● Waveforms

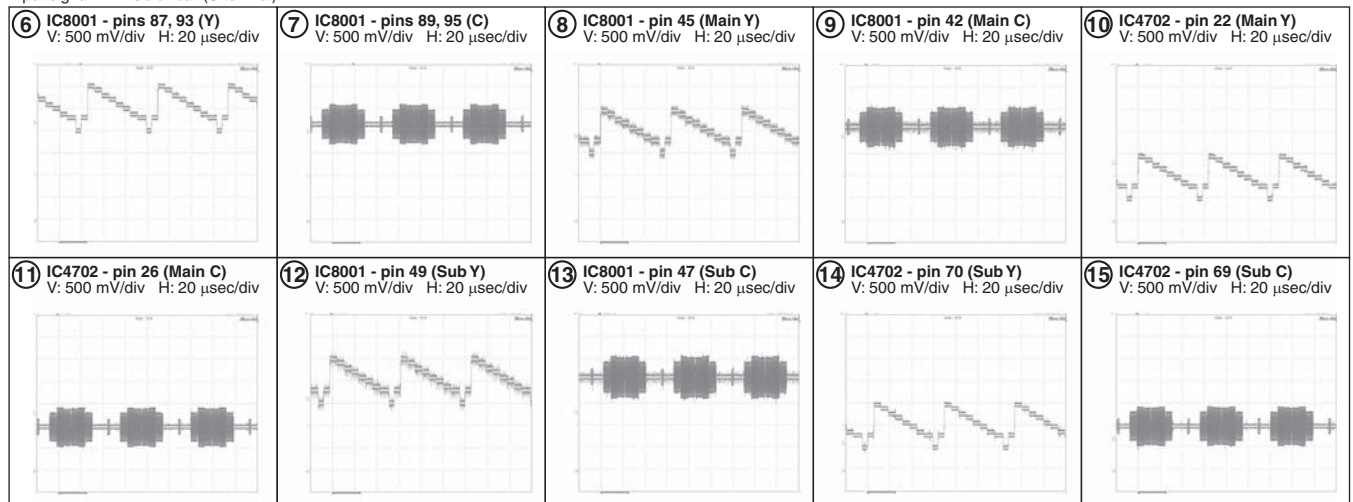
Input signal: PAL Color-bar (Analog tuner)





• Waveforms

Input signal: PAL Color-bar (S terminal)



A

=> RGB

Image for the RGB (SCART) input signal is not displayed.

Yes

Is the function corresponding to selected signal input selected?

No

Select the corresponding signal with the Input selector.

Yes

B

Has the signal arrived at IC8101 (RGBSW)?

No

Check around the input terminals.

No

Replace the IO Assy.

Yes

Is a signal output from IC8101? (pins 41, 43 and 45) ①⑥ ①⑦ ①⑧

No

Check around IC8101 and check the communications between IC8101 and microcomputer. If there was no problem, replace the IO Assy.

Yes

Has the signal arrived at IC4702? (pins 27, 28 and 65) ①⑨ ②⑦ ②⑧ ②①

No

Check the 40P FFC (J214) between MAIN Assy and IO Assy. If there was problem, replace it.

Yes

C

Which signal is not output, main or sub signal?

Sub

Is the screen of main side Tuner?

No

Specifications that does not display in the sub-side.

Main

Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?

No

Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN Assy.

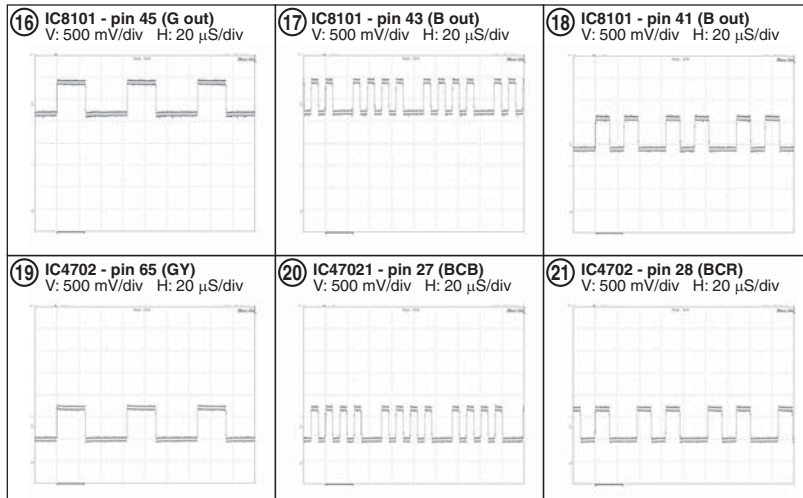
Yes

Replace the MAIN Assy.

D

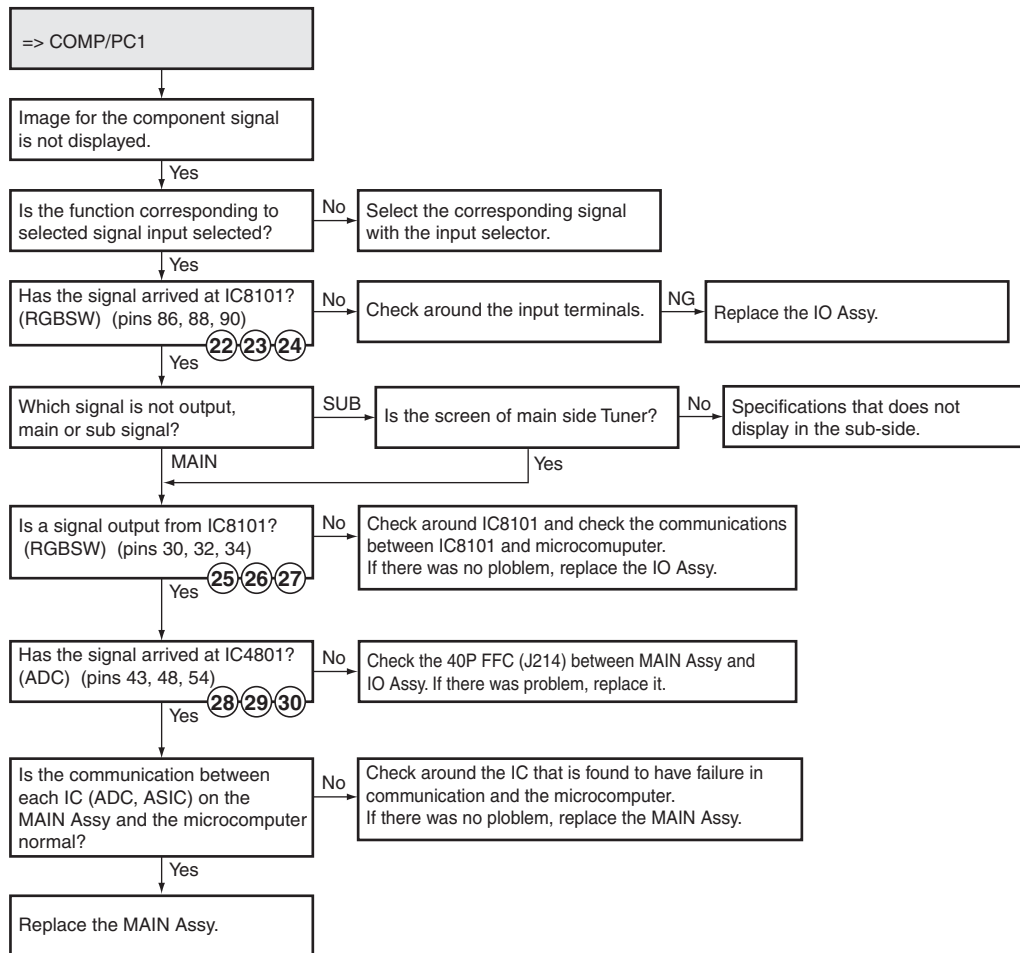
Waveforms

Input signal: PAL Color-bar (SCART RGB terminal)



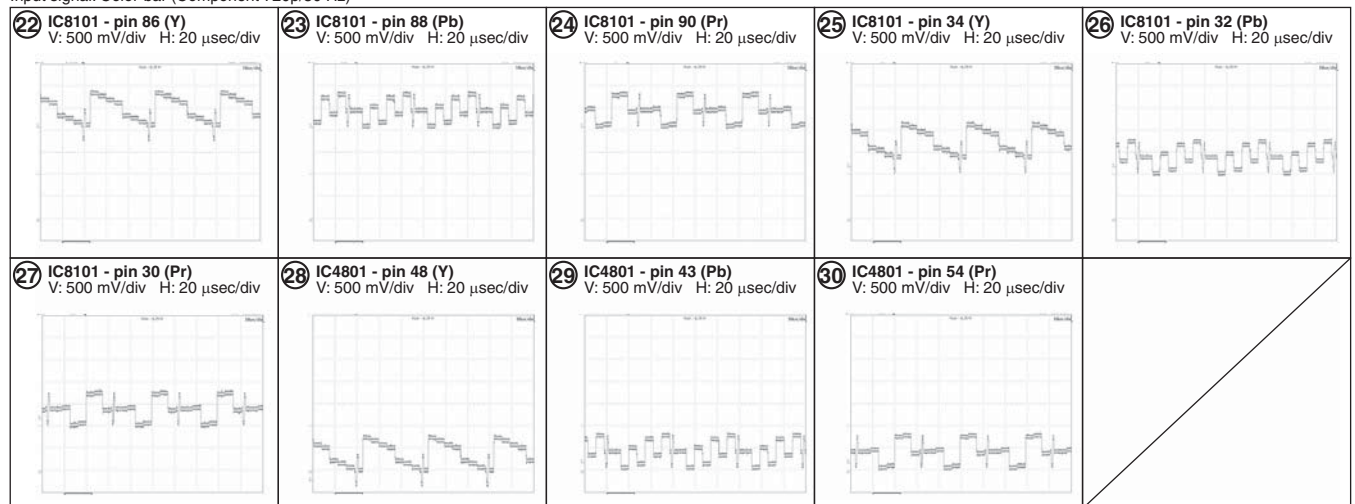
E

F

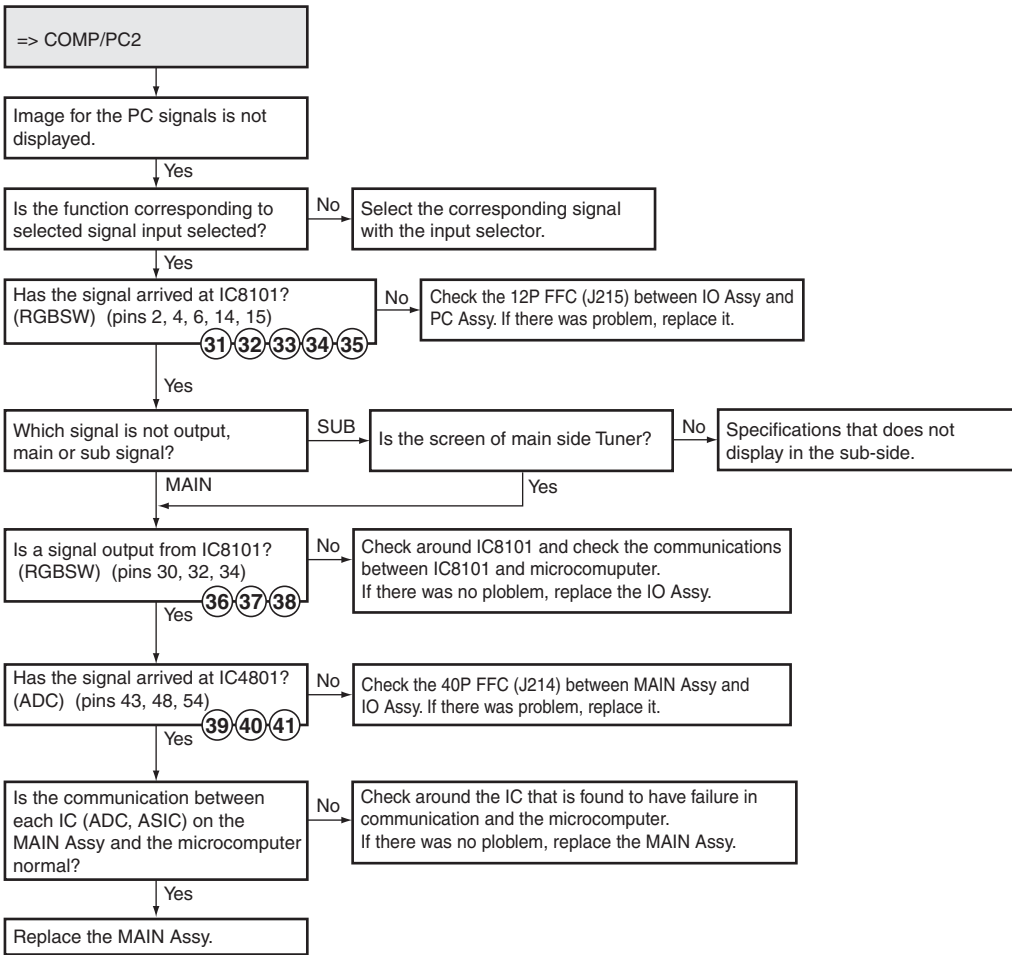


• Waveforms

Input signal: Color-bar (Component 720p/50 Hz)



A



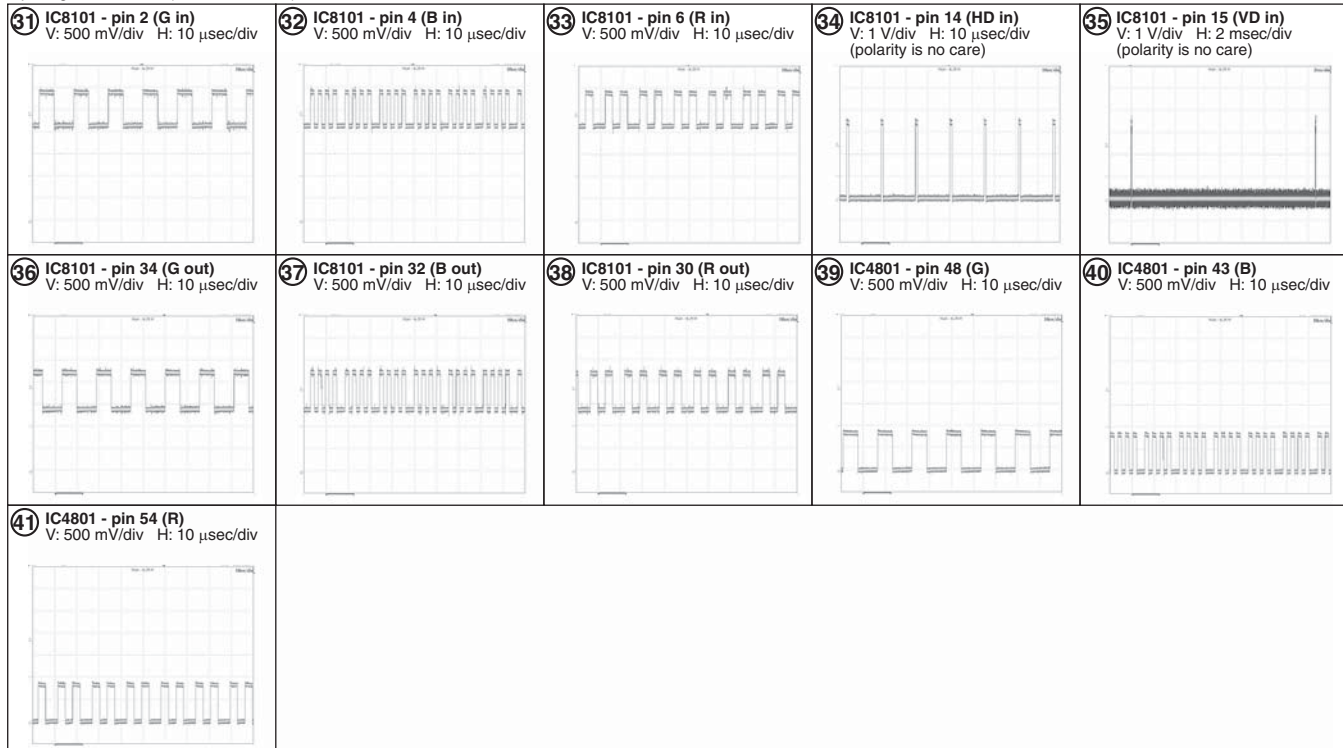
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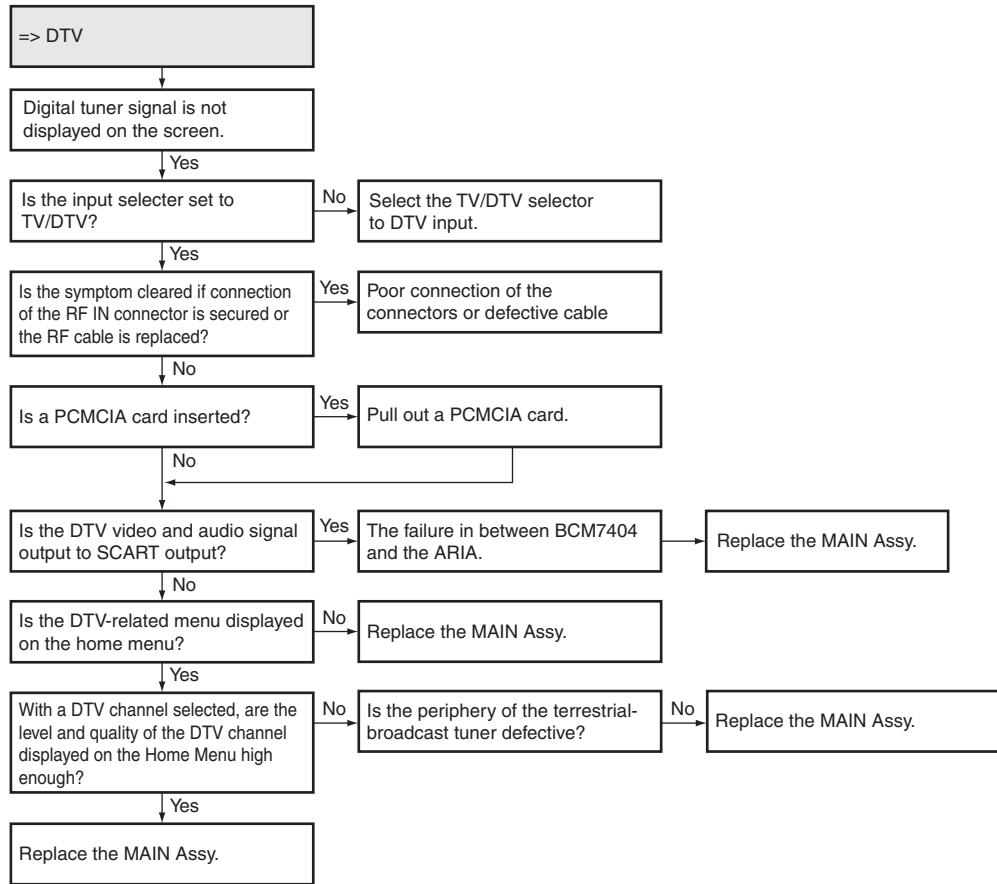
• Waveforms

Input signal: Color-bar (PC SXGA/60 Hz)



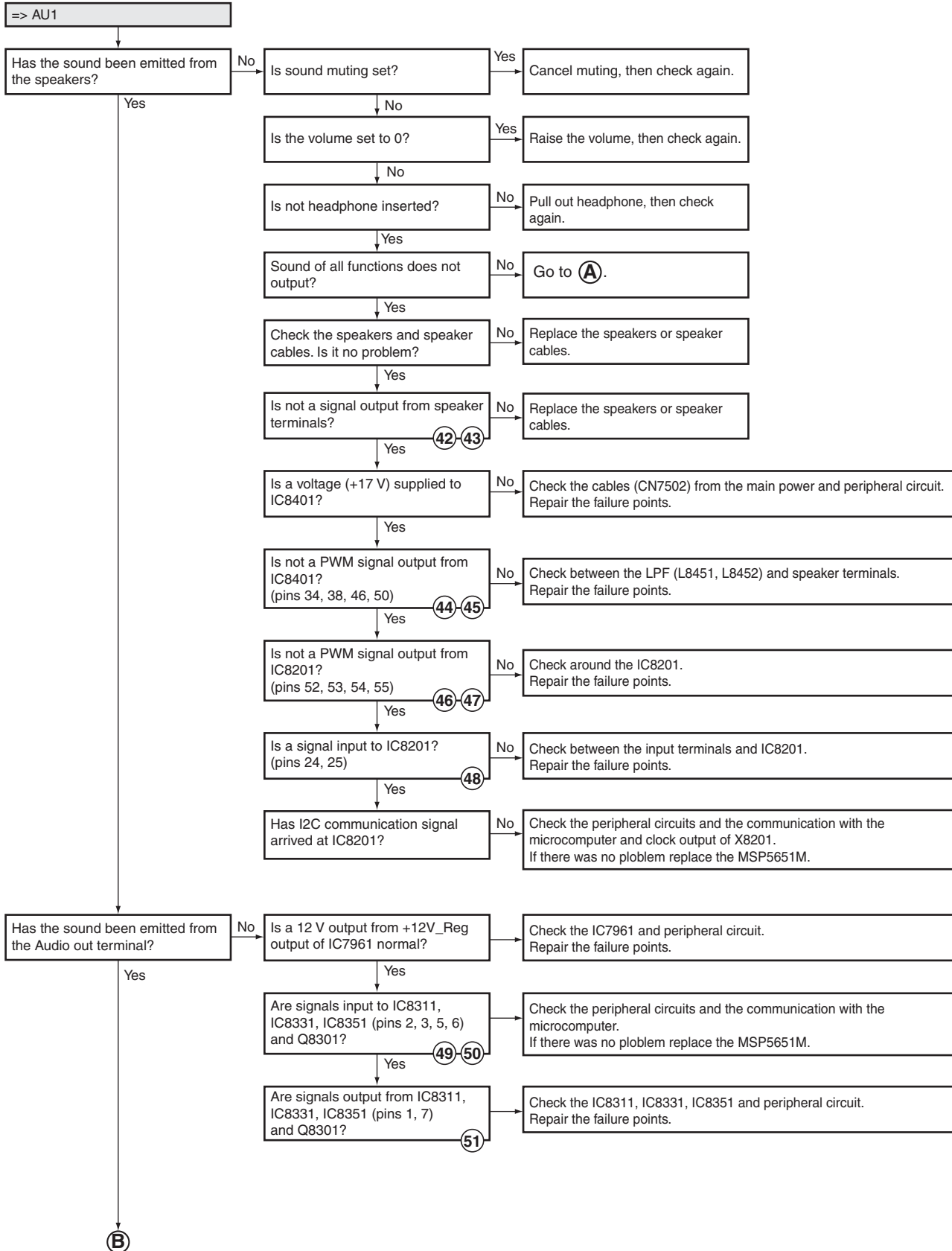
E

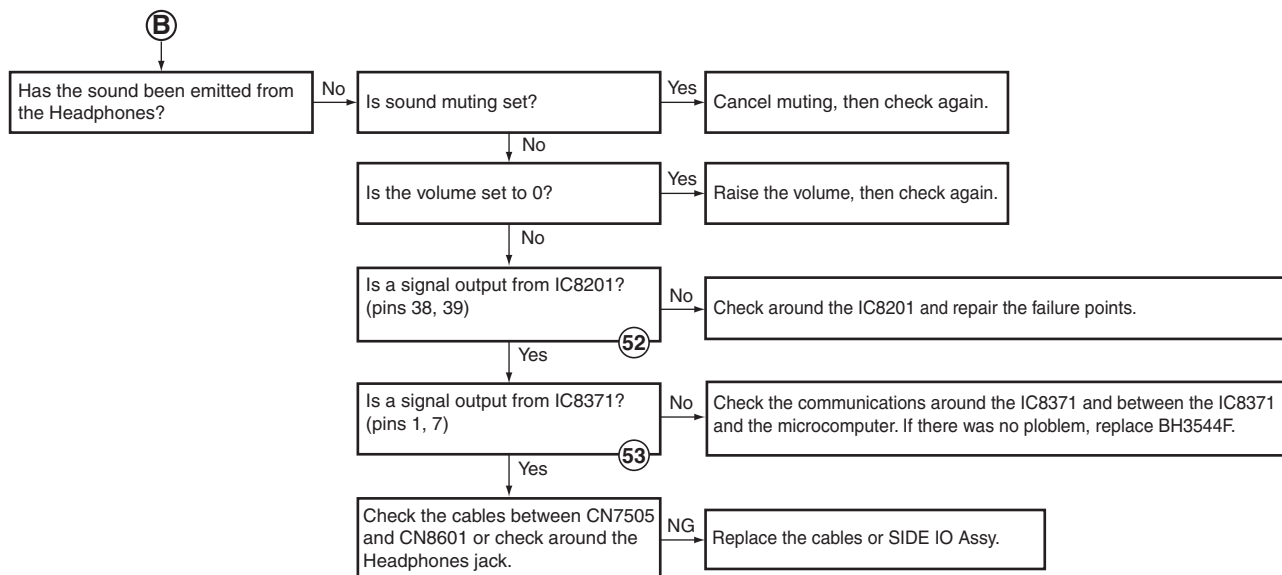
F



A [7] AUDIO SYSTEM

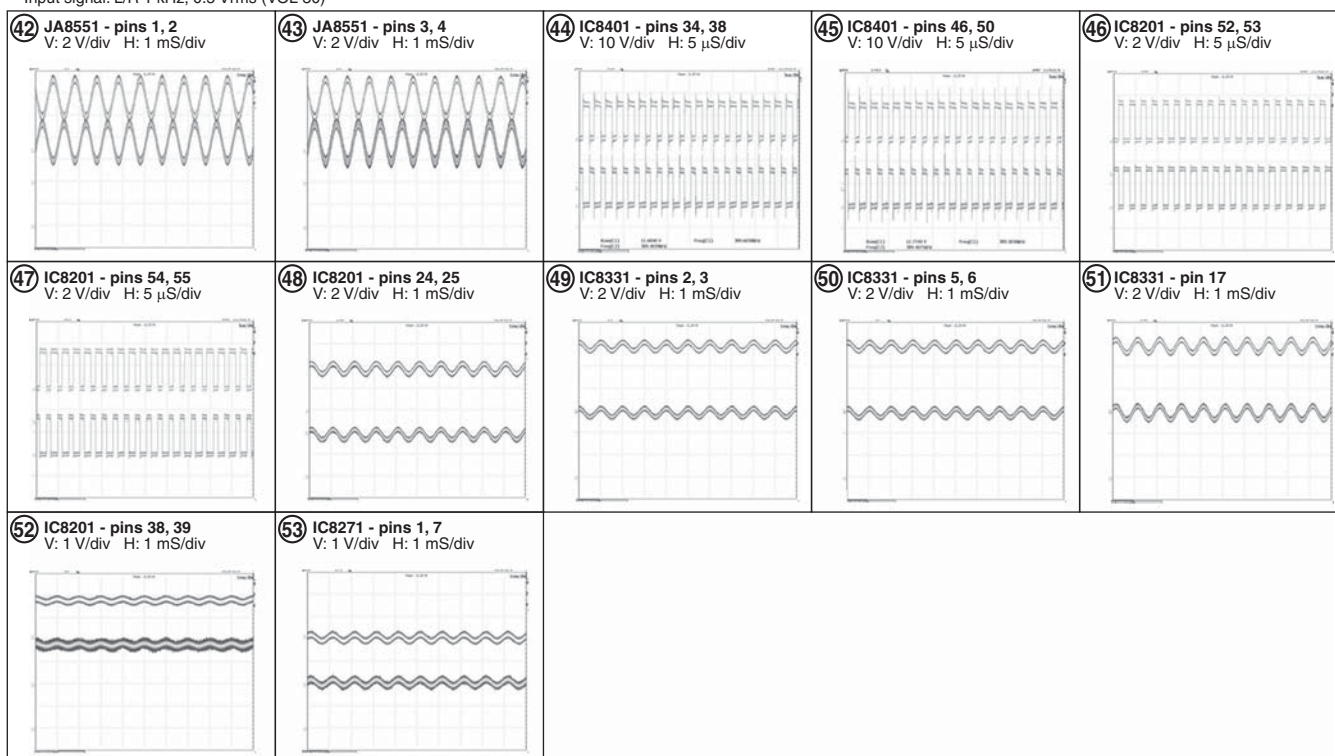
Flowchart of Failure Analysis for The Audio System



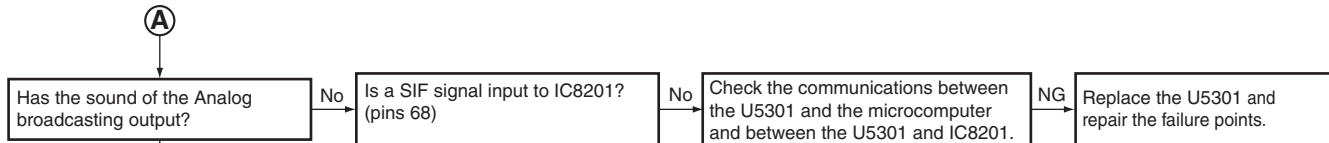


• Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)



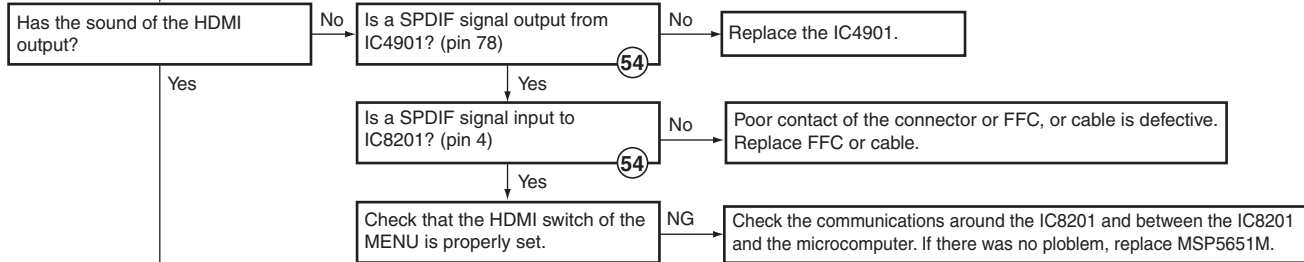
A



Yes

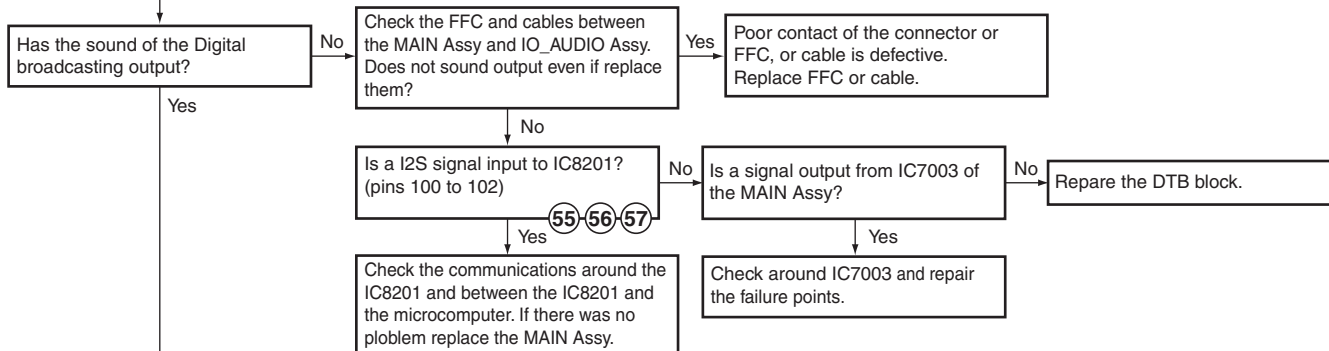
Check the communications around the IC8201 and between the IC8201 and the microcomputer. If there was no problem, replace MSP5651M.

B



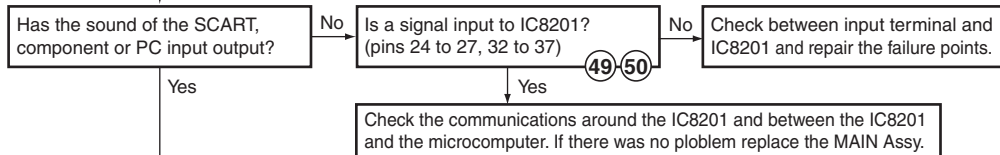
Yes

C



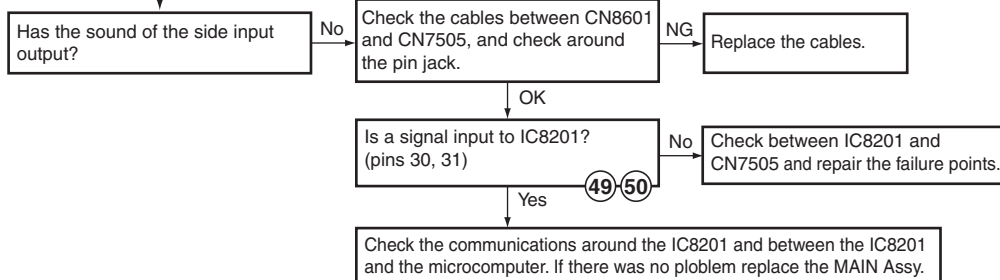
Yes

D



Yes

E



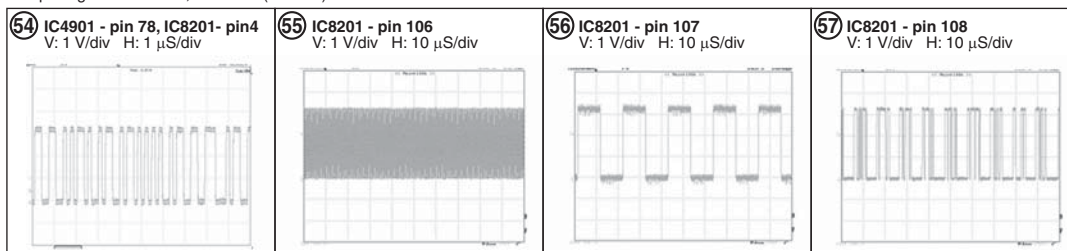
No

OK

Yes

Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)



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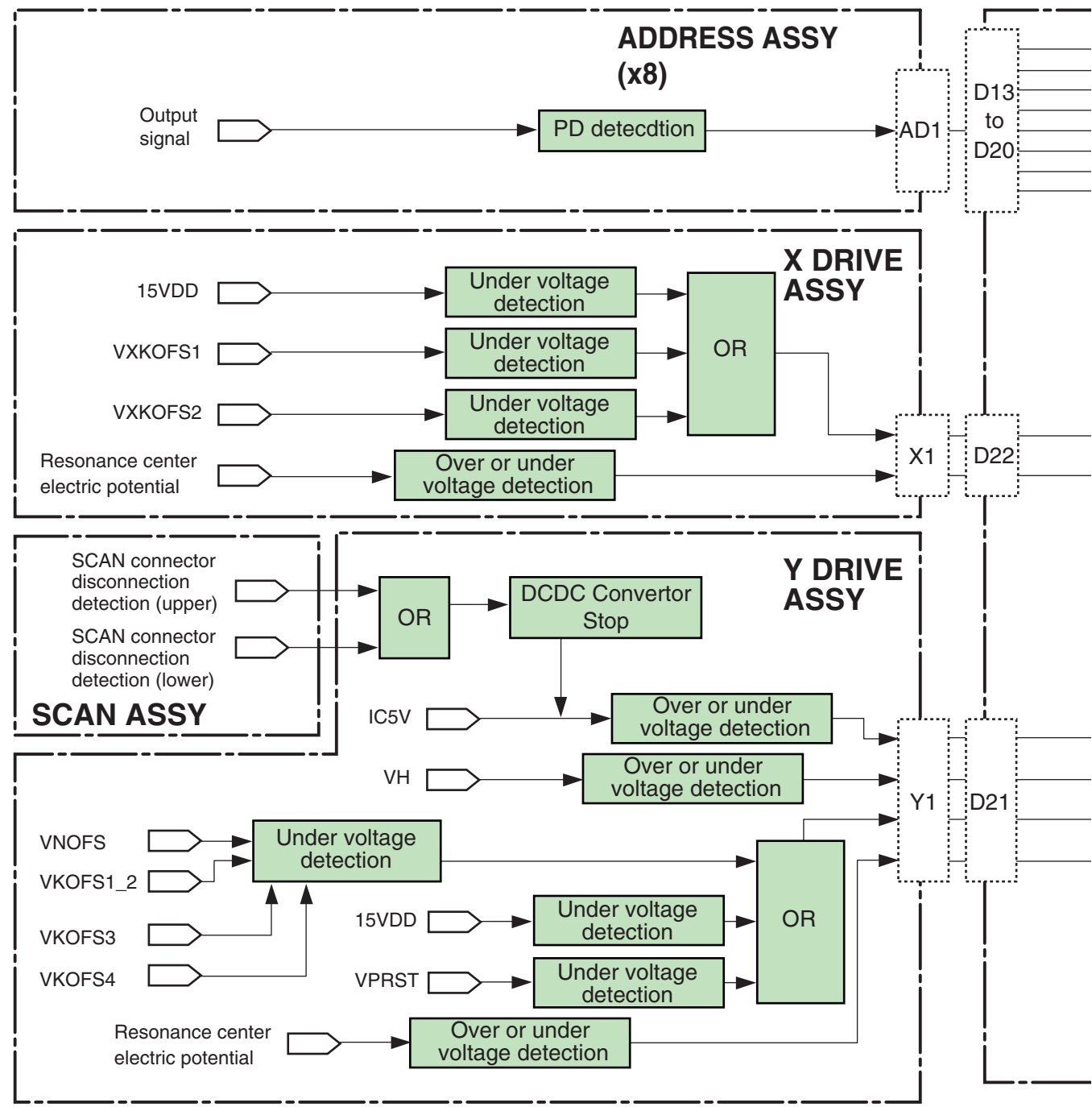
8

■

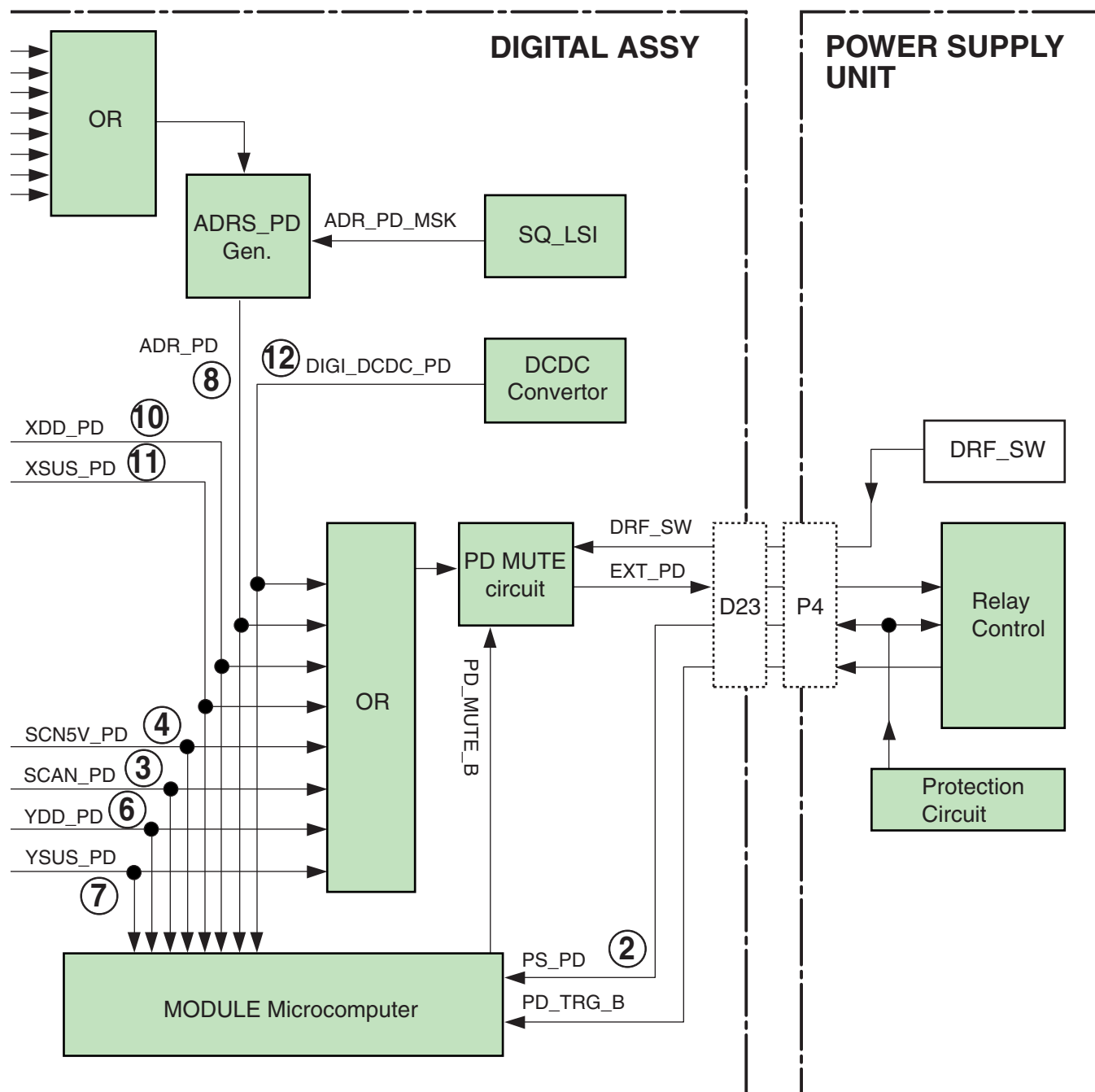
1 2 3 4

5.3 DIAGNOSIS OF PD (POWER-DOWN)

A [1] BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL



The figures ② to ⑫ indicate the number of times the Red LED flashes when power-down occurs in the corresponding route.



[2] PD (POWER-DOWN) DIAGNOSIS OF FAILURE ANALYSIS

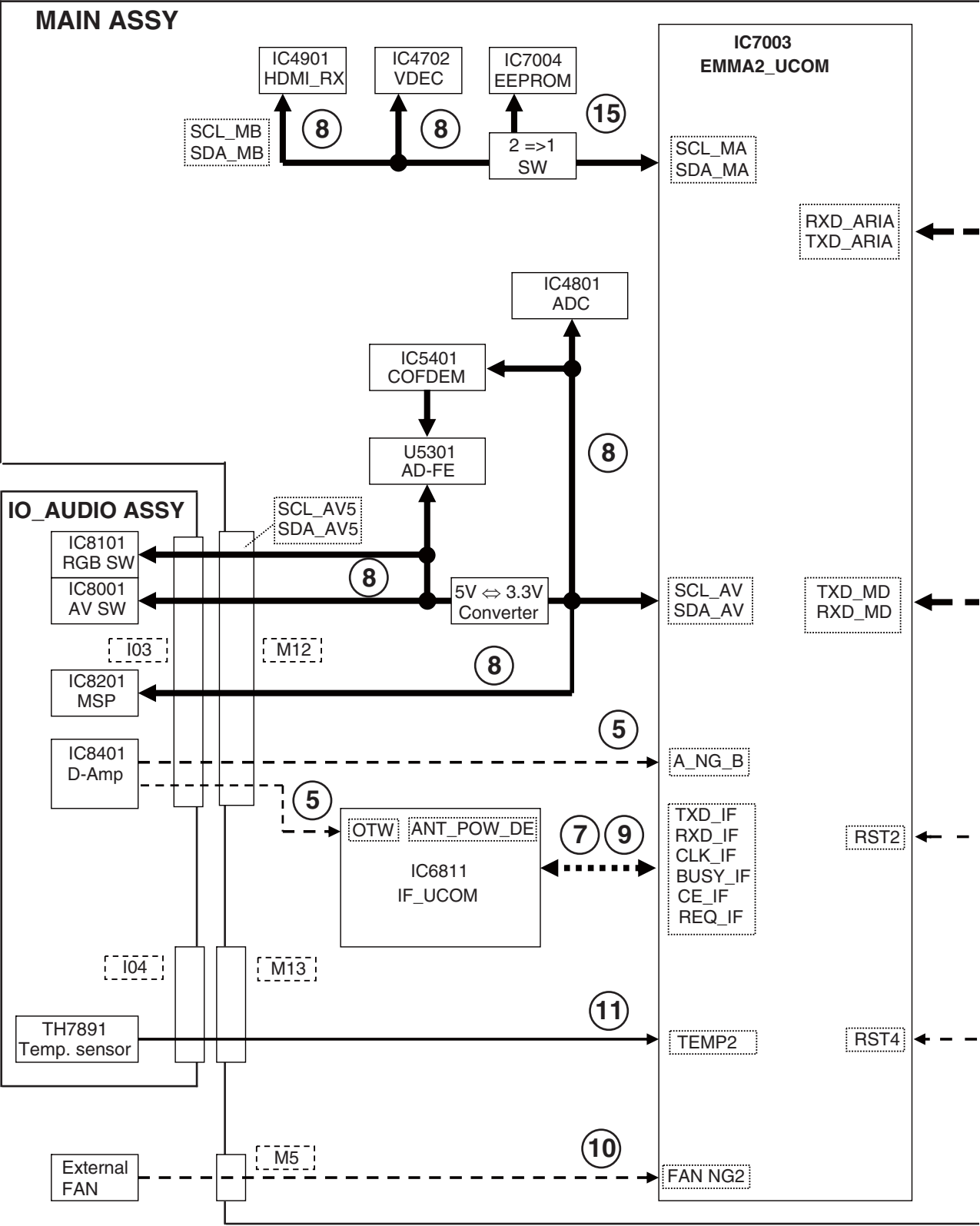
Red LED Flashing Count	Factory History Display	Defective Assy	PD Outline	Checkpoint
2	P-PWR	POWER SUPPLY Unit	Each PD in the POWER SUPPLY Unit	
			Connector disconnection	Connector [P14][P15] (60°only)
		X DRIVE Assy	VSUS under voltage protection	X SUS block
		Y DRIVE Assy	VSUS under voltage protection	Y SUS block
		ADDRESS Assy	Connector disconnection	Connector [AD1]
3	SCAN	DIGITAL Assy	Connector disconnection	Connector [D13] to [D20]
		SCAN Assy		SCAN IC
		X DRIVE Assy	VH over or under voltage protection	X SUS block
				Y SUS block
		Y DRIVE Assy		VH DC/DC
4	SCN5V			OFFSET block
			Connector disconnection	Connector [Y1][Y2]
		DIGITAL Assy	Connector disconnection	Connector [D21]
		SCAN Assy	Connector disconnection	Connector [SA1][SB1][SB2][SC1][SC2][SD1]
		Y DRIVE Assy	IC5V over or under voltage protection	SCAN IC
6	Y-DCDC	Y DRIVE Assy	VNOFS under voltage protection	Y MSK block
				NOFS block
				VNOFS DC/DC
			VYPRST under voltage protection	VPRST regulaotr
				PR-U block
			15VDD under voltage protection	15V DC/DC
				SOFT-G block
			VKOFS1,2 under voltage protection	Y MSK block
				KNOFS2 block
				VYKOFS1, 2 regulaotr
7	Y-SUS	Y DRIVE Assy	VKOFS3 under voltage protection	Y MSK block
				VYKOFS3 regulaotr
			VKOFS4 under voltage protection	Y MSK block
				KNOFS4 block
				VYKOFS4 regulaotr
			Over or under voltage protection of the center electric potential	Y resonance block
			DIGITAL Assy	SEQ_LSI does not operate
				SEQ_LSI (Sync input, output waveform)
			ADDRESS Assy	VADR under voltage protection
				Address resonance block
8	ADRS	ADDRESS Assy		TCP
			Connector disconnection	Connector [AD1][AD2]
			DIGITAL Assy	Connector [D13] to [D20]
			Y DRIVE Assy	Connector [Y2][Y5][Y6]
			X DRIVE Assy	Connector [X2][X3][X4]
			POWER SUPPLY Unit	Connector [P1][P2]
			Connector disconnection	Connector [X2]
			15VDD under voltage protection	X SUS block
				15V DC/DC
			VXKOFS1 under voltage protection	VXKOFS1 regulaotr
10	X-DCDC	X DRIVE Assy		X OFFSET block
			VXKOFS2 under voltage protection	VXKOFS2 regulaotr
				X OFFSET block
			Over or under voltage protection of the center electric potential	X resonance block
			3.3V, 2.5V, 1.1V	DC/DC controlo IC
			Over voltage/under voltage/overcurrent protection	DC/DC block
			POWER SUPPLY Unit	Connector [P4]
			DIGITAL Assy	Connector [D23]
			ModuleUcom can not detection	Each PD line of ModuleUcom

Possible Defective Part	Remarks
Q1218,Q1219,Q1221-Q1223,Q1226	The POWER SUPPLY Unit of 60 inches model is a structure of the two parts. VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
Q2217-Q2224	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
each SCAN IC	The abnormality of the SCAN IC
Q1218,Q1219,Q1221-Q1223,Q1226	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
Q2217-Q2219,Q2221-Q2223	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
IC2601,IC2603,IC2604	
Q2401,Q2402	KNOFS1 and KNOFS3 are short-circuited.
	[SB2][SC1][SC2][SD1] are 60 inches model only.
each SCAN IC	
Q2764,D2768,R2764	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2424,Q2429	NOFS is short-circuited.
D2606,Q2709-Q2711	
Q2604,Q2605,IC2602	
Q2418	PR-U is short-circuited.
Q2662,R2669,L2301,R2335	
Q2427	SOFT-G is short-circuited.
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2430	KNOFS2 is short-circuited.
Q2702,Q2705,R2714	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2703,Q2706,R2715	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2432	KNOFS4 is short-circuited.
Q2704,Q2707,R2717	
Q2106-Q2109,Q2111,Q2113,D2104-D2107	
IC3301,IC3302	The history of SD1 remains
Q1711,Q1721,Q1731,Q1741,Q1911,Q1921,Q1931,D1711,D1721,D1731,D1741,D1911,D1921,D1931	
TCP (IC1651,IC1661,IC1671,IC1681,IC1851,IC1861,IC1871)	When the TCP is damaged, replace the panel. Ref No. of L Assy (6 pieces) and S Assy (2 pieces) are common use.
L1201,R1217	
Q1402	
Q1405,Q1406	
Q1302,Q1304	
Q1403,Q1404	
Q1301,Q1303	
Q1108,Q1112,Q1116,Q1119	
IC3801	
Q3841,Q3861,Q3881,L3841,L3861,L3881	
R3820,R3848,R3868,R3888	
	EXT_PD line : Open
	EXT_PD line : Open
	It becomes "UNKNOWN" except above-mentioned PD detection condition.

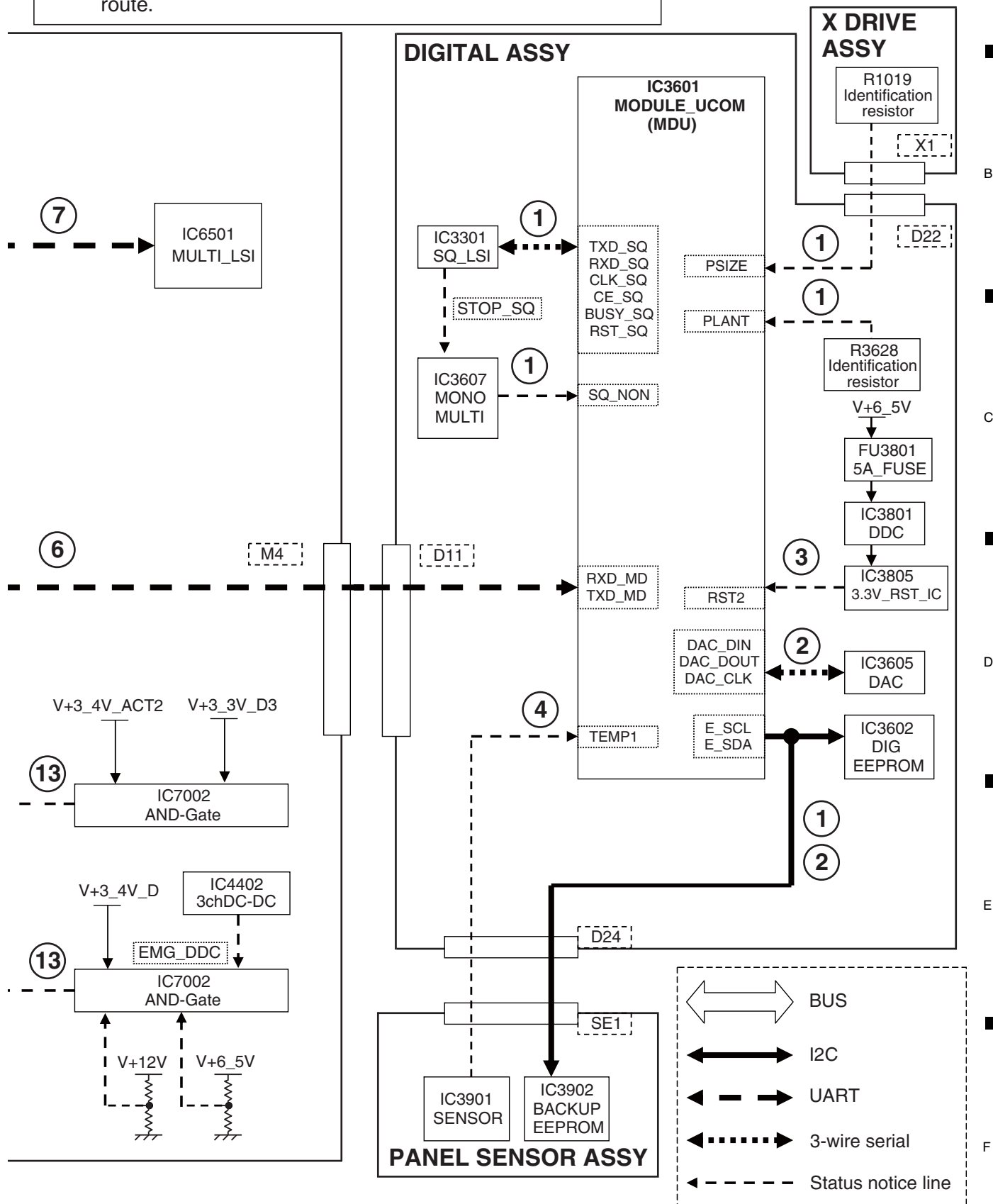
1 2 3 4

5.4 DIAGNOSIS OF SD (SHUTDOWN)

A [1] BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL



Note : The figures ① to ⑮ indicate the number of times the Blue LED flashes when shut-down occurs in the corresponding route.



[2] SD (SHUTDOWN) DIAGNOSIS

Frequency of LED Flashing (*1)		Major Type	Detailed Type	Log Indication in Factory Mode		
				MAIN	SUB	
Blue 1	Orange 1	Abnormality in the Sequence LSI	Communication error	SQ-LSI	RTRY	
	Orange 2		Drive stop		SQNO	
	Orange 3		Busy		BUSY	
	Orange 4		Version mismatching (hardware, software)		VER-HS	
	Orange 5		Version mismatching (hardware, backup memory)		VER-HM	
	Orange 6		Version mismatching (hardware, DIGITAL memory)		VER-HI	
Blue 2	Orange 1	Failure in MDU device communication	Digital EEPROM	MD-DEV	EEPROM	
	Orange 2		Backup EEPROM		BACKUP	
	Orange 3		DAC IC		DAC	
Blue 3	—	Abnormality in RST2 power decrease	—	RST2	—	
Blue 4	Orange 1	Abnormality in panel temperature	Abnormality in high temperature	TMP-NG	TMP-H	
	Orange 2		Abnormality in low temperature		TMP-L	
Blue 5	—	Short-circuiting of the speakers D-AMP temperature abnormality	—	AUDIO	—	
	—					
	—					
Blue 6	—	Failure in communication with the module microcomputer	—	MODULE	—	
Blue 7	Orange 1	Failure in IF microcomputer	IF microcomputer	MA-3L	IF	
	Orange 2	3-wire serial communication	MULTI		MULTI	
Blue 8	Orange 1	Failure in IIC communication with the main microcomputer	Tuner 1	MA-IIC	FE1	
	Orange 2		MSP/MAP		MSPMAP	
	Orange 3		AV switch		AV-SW	
	Orange 4		RGB switch		RGB-SW	
	Orange 5		Main VDEC		VDEC	
	Orange 6		VDEC SDRAM		SDRAM	
	Orange 7		AD/PLL		ADC	
	Orange 8		HDMI		HDMI	
	Orange 13		COFDEM		DEMOD	
Blue 9	—	Failure in communication with the main microcomputer	—	MAIN	—	
Blue 10	Orange 2	Abnormality in FAN	FAN2	FAN	FAN2	
Blue 11	—	High temperature of the unit	—	TEMP2	—	
Blue 12	Orange 1	Digital Tuner	DTV startup error	DTUNER	PS/RST	
Blue 13	Orange 1	Failure in the power supply	DC-DC Converter power decrease	RST-MA	M-DCDC	
	Orange 2		POWER SUPPLY		RELAY	
Blue 15	—	Main EEPROM	Main EEPROM communication error	MA-EEP	—	
—	—	Digital Tuner	DTV Antenna	DTUNER	D-ANT	

*1: If the DISPLAY key is pressed during shutdown (the blue LED is flashing), flashing of the orange LED, which indicates the subcategory, can be confirmed. The blue LED remains flashing. Pressing the DISPLAY key again will make the orange LED go dark.

Checkpoint	Possible Defective Part	Remarks
Communication line between MDU and SQ_LSI	IC3601/IC3301	SQ_IC communication not established. IC3301 may not have properly started up.
Drive detectig signal of MDU (SQ_NON)	CN3201/IC3601/ IC3301/IC3607	A shutdown occurs if the drive waveform periodically does not output. (When SQ_NON of MDU input is High, a shutdown is generated.)
Communication line between MDU and SQ_LSI (BUSY_SQ)	IC3601/IC3301	If BUSY_SQ remains high, a shutdown is generated.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connection between [X1] and [D22].	IC3601/IC3301	When the identification resistor of PSIZE/PLANT and software version of SEQ are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22], and [SE1] and [D24]. Communication line between MDU and BACKUP EEPROM	IC3601/ SENSOR Assy(IC3902)	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the SENSOR Assy are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22]. Communication line between MDU and DIG EEPROM	IC3601/IC3602	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the DIGITAL Assy are incoherent, a shutdown occurs.
Communication line between MDU and DIG EEPROM	IC3601/IC3602	
Communication line between MDU and BACKUP EEPROM	IC3601/SENSOR Assy(IC3902)	
Communication line between MDU and DAC	IC3601/IC3605	
3.3 V output (TP3881) of DDC	IC3801/IC3805	If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.
V+6.5V of POWER SUPPLY Unit (Check [D25][P4]) FU3801 has melted.	POWER SUPPLY Unit, FU3801	Check if V + 6.5 V is started. Also check if the FU3801 on the DIGITAL Assy has been melted.
Installation environment	SENSOR Assy (IC3901)	If TEMP1 that is read by the module microcomputer is 85 °C or higher, a shutdown will be generated.
Installation environment Check the connection between SE1 and D24.	SENSOR Assy (IC3901)	A shutdown occurs if the reading of TEMP1 detected by the module micro-computer is -20 °C or less. Also check the connection between SE1 and D24.
Speaker terminals	JA8551	Check if any speaker cable is in contact with the chassis.
D_AMP	IC8401	Check if the AMP output is short-circuited. Check the temperature that is 125 °C or less.
Periphery of the cable between IO3 and M12, and IO4 and M13	CN7503,CN7504, CN4003,CN4004	Check if cables are firmly connected.
Communication line between MAIN and MOD	IC7003	Check the communication lines (TXD_MOD/RXD_MOD).
Periphery of the cable between D11 and M12	CN4101,CN4105	Check if cables are firmly connected.
Communication line between IF and MAIN	IC7003,IC6501	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Communication line between MULTI and MAIN	IC7003,IC6501	Check the communication lines (TXD_ARIA/RXD_ARIA).
IIC communication line between Tuner and MAIN	U5301,IC7003	Check the communication lines (SCL_TU/SDA_TU or SCL_AV/SDA_AV).
IIC communication line between MSP/MAP and MAIN	IC8201,IC7003	Check the communication lines (SCL_AV/SDA_AV).
IIC communication line between AV-SW and MAIN	IC8001,IC7003	Check the communication lines (SCL_AV5/SDA_AV5).
IIC communication line between RGB_SW and MAIN	IC8101,IC7003	Check the communication lines (SCL_AV5/SDA_AV5).
IIC communication line between M_VDEC and MAIN	IC4702,IC7003	Check the communication lines (SCL_MB/SDA_MB).
IIC communication line between VDEC and SDRAM	IC4702,IC4802	Check the communication lines (SDRAM). Defective SDRAM
IIC communication line between ADC and MAIN	IC4801,IC7003	Check the communication lines (SCL_AV/SDA_AV).
IIC communication line between HDML_RX and MAIN	IC4901,IC7003	Check the communication lines (SCL_MB/SDA_MB).
IIC communication line between COFDEM and MAIN	IC5401,IC7003	Check the communication lines (SCL_AV/SDA_AV).
Communication line between IF and MAIN	IC6811,IC7003	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Dirt attached to the fan motor		Check the fan. (SD10 does not detect it at the temperature that fans do not turn.)
Periphery of the FAN CONNECT Assy		FAN NG
Periphery of the cable between FA1 and FA3		Check if cables are firmly connected.
Periphery of the fan control regulator	IC4303	Check that the voltage outputs it.
Ambient temperature		TEMP2 A shutdown occurs because of high temperature.
Temperature sensor or its periphery	TH7891	TEMP2
Periphery of the cable between IO4 and M13	CN7504,CN4004	Check if cables are firmly connected.
Startup of BCM7404	IC6001	Check the startup of the BCM7404 and the communication line with MAIN.
RST2 V+3_4V_ACT2, V+3_3V_D3	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V, V+3_4V_D	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V, V+3_4V_D	POWER SUPPLY Unit	Check if each voltages are started.
Check the cables M2 and M3.	CN4207, CN4210	Check if cables are firmly connected.
IIC communication line between EEPROM and MAIN	IC7004, IC7003	Check the communication lines (SCL_EP/SDA_EP)
Antenna supply power	IC4304	Check the IC4304 and periphery device.

5.5 NON-FAILURE INFORMATION

[1] INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

Symptom	Cause, item to check, information
HDMI: Symptoms concerning the input format and settings	
The picture color for an INPUT 1 or 3 or 4 signal is not correct.	The color setting for INPUT 1 or 3 or 4 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.
The video signal to INPUT 1 or 3 or 4 is not displayed, and a message is displayed.	A unsupported video signal is input.
The audio signal input to the INPUT 1 or 3 is not output. No HDMI signal is input.	The audio setting for INPUT 1 or 3 is any setting, and a video signal is not input. If the audio setting is any setting, to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output.
No sound of signals to INPUT 1 or 3 or 4 is output.	The setting on the side of the HDMI output equipment is wrong. Example: Dolby Digital
The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly.	Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.)
SCART video output	
The video output signal from the SCART connector is deteriorated. Or when the video output signal from the SCART connector is recorded, its playback picture is deteriorated.	The video signal output from the SCART connector is Macrovision protected.
The video signal is not output when the component signal is input to INPUT 2.	The video signal is not output from the SCART connector when the component signal is selected.
The video signal is not output when the video signal is input to INPUT 1 or 3 or 4.	The video signal is not output from the SCART connector when the HDMI signal is selected.
AUDIO OUT and SCART	
The image displayed on the PDP is not synchronized with the sound from the SCART.	The audio signal from the SCART connector is synchronized with the video output signal from the SCART connector. And the audio signal from the AUDIO OUT is synchronized with the video signal that is currently displayed.
DIGITAL OUT	
Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible.	The video signal output from the DIGITAL connector is copy-protected.
The digital audio output signal from the DIGITAL connector is not synchronized with that from the SCART video output.	The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the SCART video output.
Miscellaneous	
The no-signal off function is not activated.	The no-signal off and no-operation off functions are effective only if video (composite, S video, component, HDMI [excluding PC]) input or TV input is selected.
The no-operation off function is not activated.	
Power management does not function.	Power Management is effective only while an analog PC signal is being input. It is not effective with HDMI-PC signal input.
The AUTO SETUP function is not activated.	The Auto Setup function is effective only while an analog PC signal is being input. This function does not work if an analog PC signal is not input, even if the INPUT PC is selected.
Control via the SR connector is not possible.	Wrong connection of the cable to the PC INPUT (AUDIO) connector is suspected.
The audio signal from the PC is not output.	Wrong connection of the cable to the SR connector is suspected.
The picture-quality setting (AV Selection) is not stored.	The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.
The picture size changes arbitrary.	The Auto Size setting is set to ON.
The display position of the screen changes slightly while the screen is on.	The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended.
The video signal to the S video connector is not displayed.	As the signal input to the connector that has been selected on the INPUT SELECT submenu of the Home menu is selected (this does not apply to the connectors located on the side of the unit), check the menu setting. If the output signal is not available even if the input signal is properly selected, input a signal to other input functions, check the connecting cables, or check the settings for the connected equipment.
The video signal to the composite video connector is not displayed.	

SUPPLEMENT: On the video setting for HDMI

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.

(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.

In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVI, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

[2] FUNCTION OF DECREASING THE BRIGHTNESS LEVEL

If the panel temperature becomes high or a video signal that requires activation of panel protection is input, the unit will protect the panel by decreasing the brightness level.

* While a mask is being displayed, the panel protection function will not be activated.

Protection Function Name	Purpose	Conditions	Protection Function	Remarks
High-temperature protection function 1	For protection of parts (DCF)	Panel temperature (TEMP1) reaches 65 °C.	Offsetting the ABL adjustment value	
High-temperature protection function 2	For reducing heating in the unit	Panel temperature (TEMP1) reaches 80 °C.	Limiting for the maximum number of SUS pulses	
Panel protection function 1	For preventing burn-in	A still image is displayed for 3 minutes or more.	Limiting for the maximum number of SUS pulses	The picture will be considered to be still if only the mouse cursor is moved.
Panel protection function 2	For protection of SCAN ICs	An image with which a particular load is applied to one SCAN IC is displayed. (See Fig. 2)	Limiting for the maximum number of SUS pulses	
Panel protection function 3	For protection against panel cracking	An image with which the heat of part in the panel is increased is displayed. (See Fig. 3)	Limiting for the maximum number of SUS pulses	

■ Limiting for the maximum number of SUS pulses

By gradually decreasing the limit for the maximum number of SUS pulses, the temperature of the panel will be lowered.

- The limit for the maximum number of SUS pulses will be decreased by 8 per 5 seconds.
- The lower limit for the maximum number of SUS pulses is about 700.
- The maximum number of SUS pulses will begin to increase gradually if the conditions that led to activation of the protection function return to normal.

■ ABL adjustment value offset

By gradually offsetting the ABL adjustment value, the temperature of the panel will be lowered. The number of SUS pulses, which is determined based on the input APL (average picture level), will be decreased.

- The ABL adjustment value will be offset by one step per 30 seconds.
- The ABL adjustment value will be gradually restored if conditions that led to activation of the protection function return to normal.

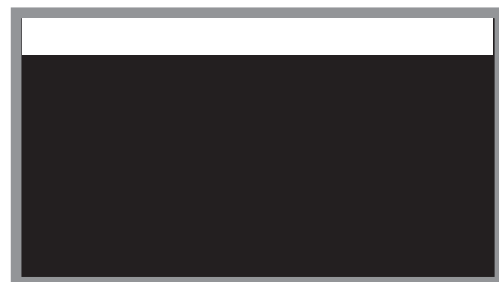


Fig. 2: Detection example: SCAN IC protection

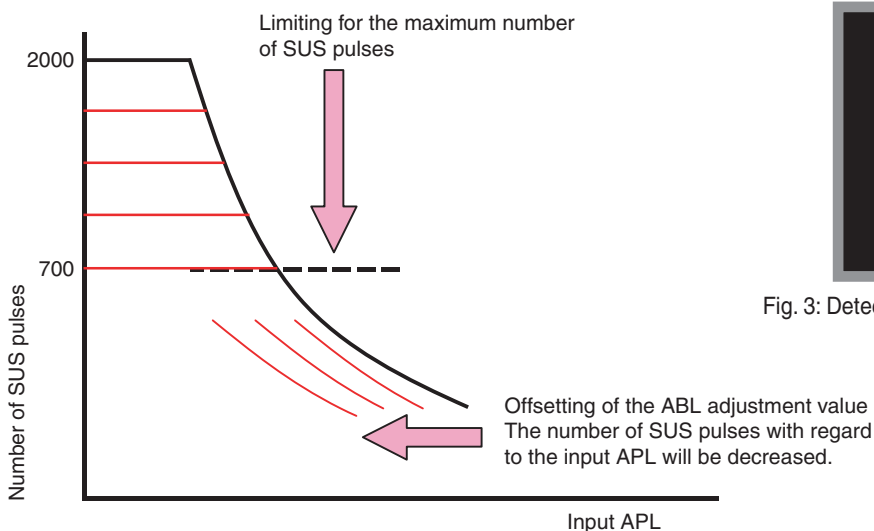


Fig. 1: Relationship between input APL and number of SUS pulses



Fig. 3: Detection example: Protection against panel cracking

5.6 OUTLINE OF THE OPERATION

[1] PANEL DRIVE-POWER ON/OFF FUNCTION

Function:

It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (Vsus, VAddress) in order to avoid a power down (PD).

Application:

1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the panel drive-power supply or with the other system power supply.

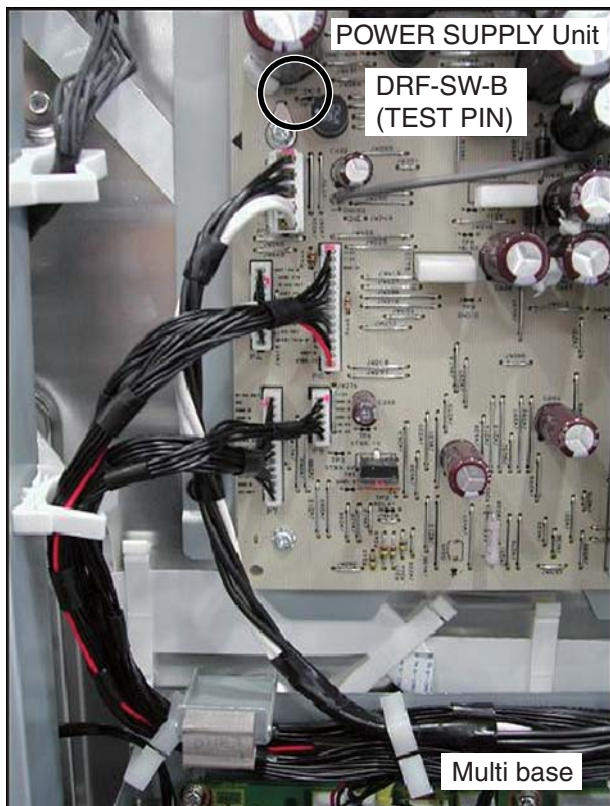
Method:

1. Short-circuit between the specified location of the POWER SUPPLY Unit and GND (Multi base section recommended), using a jumper with alligator clips (refer to the photos below).
2. Execute [DRV S00] by RS-232C command. ([DRV S01] for release)

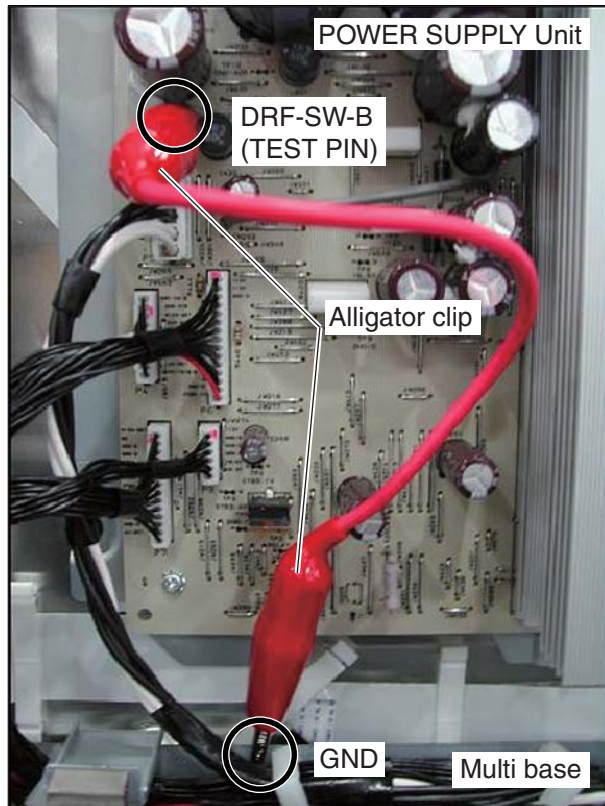
Supplemental explanation:

- When the panel drive-power is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the panel drive-power, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS-232C command control, [DRV S01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- Command [DRV S00/S01] is effective even during standby.
- Setting with RS-232C commands or the remote control unit is enabled during Standby mode. However, if the unit is left unoperated for about 10 seconds in Standby mode after setting with RS-232C commands or the remote control unit is completed, the setting will become void.
- When the main power switch is set to OFF, no command is accepted.
- Setting with RS-232C commands or the remote control unit will become void if the AC power cord is unplugged, the main power switch is set to OFF, or the unit is left unoperated for about 10 seconds in Standby mode.

When the panel drive-power is ON



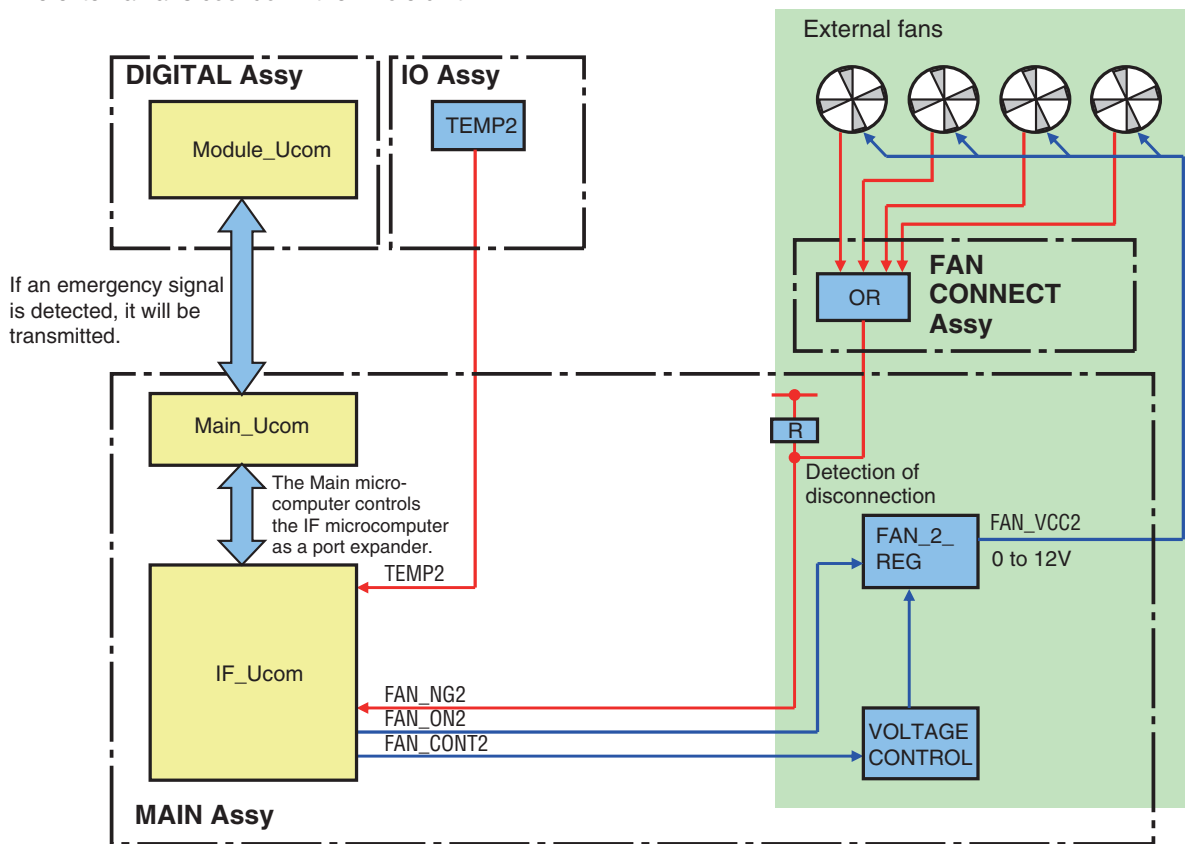
When the panel drive-power is OFF



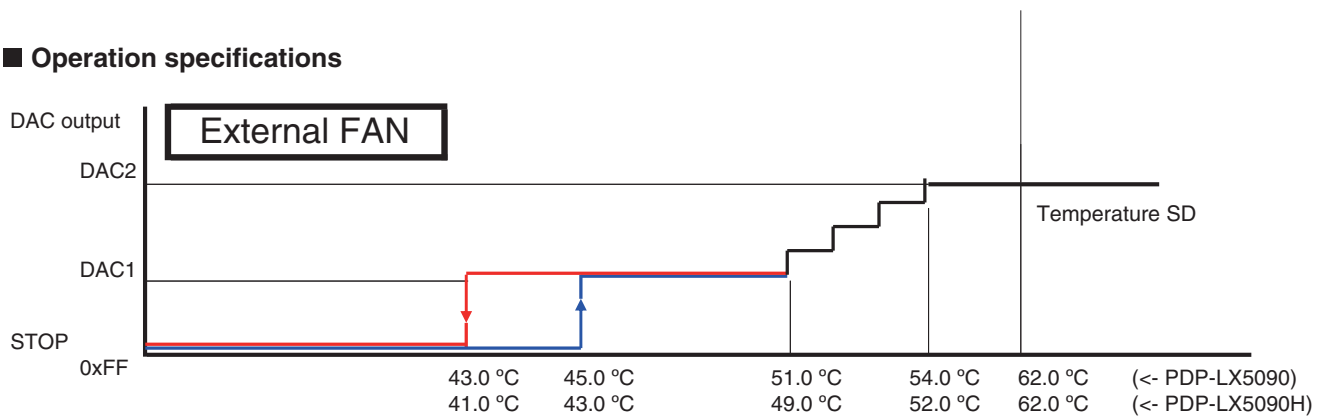
[2] SPECIFICATION OF THE FAN CONTROL

■ Block diagram

The external fans cool down the whole unit.



■ Operation specifications



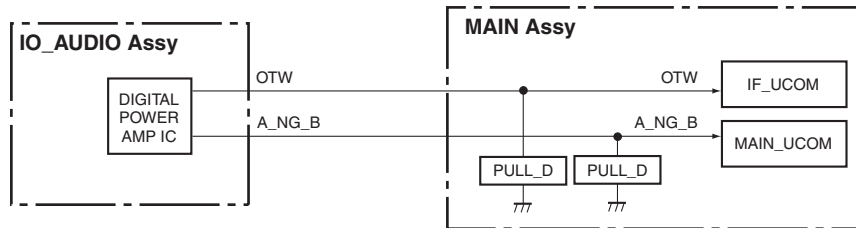
Notes:

- The operating temperature of the fan is higher than the ambient temperature, because the sensor temperature is read by the microcomputer.
- If the critical values for signals are displayed in the address circuit, the fan may be activated or be rotated at higher speed in response to values lower than the set temperature values shown above.
- When the temperature rises, the sensor voltage of TEMP2 decreases.
- When the voltage of the DAC output for external FAN decreases, rotation speed of FAN rises.

[3] PROCESSING IN ABNORMALITY

Speaker short-circuit

● Circuit configuration



● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
A_NG_B	AUDIO	Shutdown occurs when the signal is "L." 30 mS * 10 times	RST4 = "H" (always) (Monitoring starts 2 sec after the above conditions are established.)	The main CPU operations described below will be performed when either "A_NG_B = L" or "OTW = L" is detected (established) under the monitoring conditions.
OTW	AUDIO	Shutdown occurs when the signal is "L." 120 mS * 3 times		

● Operation specifications of the main CPU

- (1) Establish the short-circuit of the speaker by the main CPU
 - After a warning indication is displayed for 5 sec, a shutdown is generated (the blue LED flashes 5 times).
 - A warning indication is displayed for all input-signal types.
 - Example of a warning indication: "The speaker terminals are short-circuited. After reconnection, turn the unit on again."

(2) Display conditions

When the panel is on: A warning indication is displayed immediately.

When the panel is off: A warning indication is not displayed immediately but is displayed when the panel is turned on.

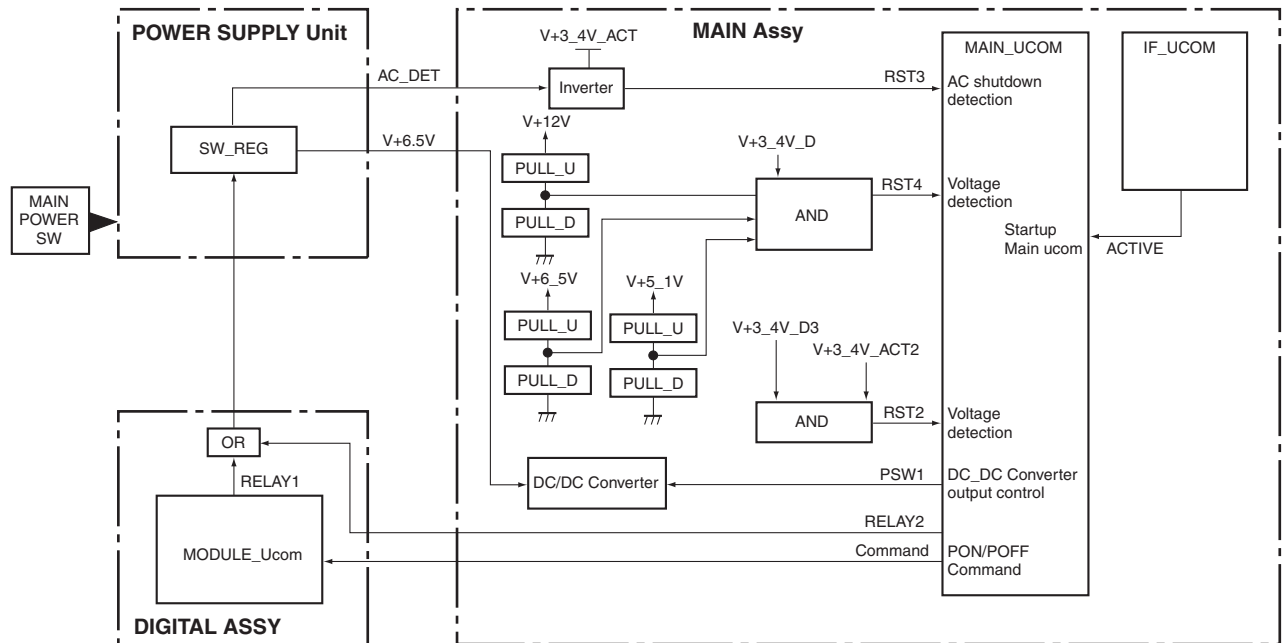
Note: A warning indication is displayed each time the panel is turned on if the conditions for a shutdown persist.

● Conditions for resetting the circuits

The circuits will be reset upon Standby ON/OFF.

Power supply and DC-DC converter

● Circuit configuration

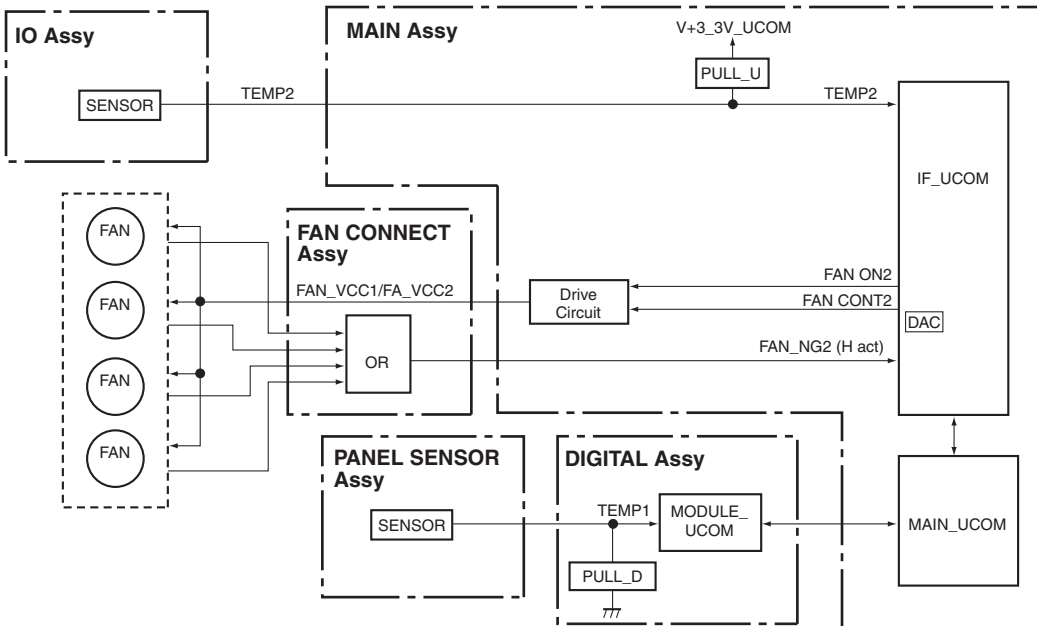


● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
RST2	ASIC power (M-DCDC)	Shutdown occurs when the signal is "L." for 5 sec after PSW1 is ON. or for 2 sec while the unit is ON.	<ul style="list-style-type: none"> Panel screen ON (RST4 = H and PSW1 = H) While awaiting restoration of RST2 (RST2 = L) 	Shutdown occurs immediately Blue LED flashes 13 times
RST3	AC power	AC_OFF when the signal is "H."	Excepting passive standby	If "RST3 = H" (AC_OFF) is detected under the monitoring conditions, a power-off process starts. Monitoring of the RST3 port is continued, while monitoring of other ports is interrupted. Communication is controlled only by the IF microcomputer. The port outputs are set as specified. If the signal at the RST3 port continues to be H after 30 mS of waiting, monitoring is continued. If RST3 is L, a restoration process starts according to the latest power-on/-off status.
RST4	MAIN power (RELAY)	Shutdown occurs if the signal is "L." for 5 sec after RELAY2 is ON. or for 2 sec while the unit is ON or in Functional STB.	RELAY2 = ON (High)	Shutdown occurs immediately Blue LED flashes 13 times

Fan and temperature sensor

● Circuit configuration

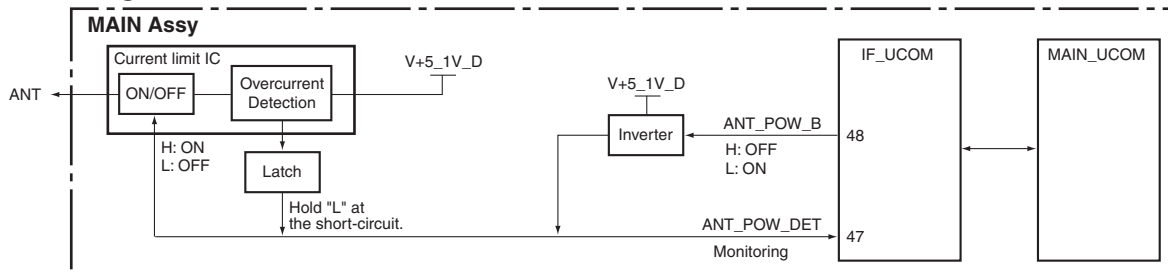


● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
FAN_NG2	FAN	Shutdown occurs when the signal is "H." 1 S * 3 times	RST2 = H and FAN_ON2 = H (Monitoring starts 3 sec after the above conditions are established.)	Shutdown occurs immediately Blue LED flashes 10 times
TEMP2	High temperature at MTB	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 1 S * 3 times	RST4 = H (Monitoring starts 1 sec after the above conditions are established.)	In the Panel screen ON: Shutdown occurs after the warning indication is displayed for 30 sec. In the Functional STB: Shutdown occurs immediately Blue LED flashes 11 times
TEMP1	Panel temperature is high	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 200 mS * 5 times (average)	Digital video RST2 = H	Shutdown occurs after waiting for 30 sec. Blue LED flashes 4 times
	Panel temperature is low			Shutdown occurs after waiting for 3 sec. Blue LED flashes 4 times

DTB Antenna power supply

● Circuit configuration



● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
ANT_POW_DET	DTB antenna short-circuited	Warning message is displayed when the signal is L (100 mS, 3 times)	RST4 = H and ANT_POW_B = L	If "ANT_POW_DET = L" is detected (established) under the monitoring conditions, an SD log is created and the warning message is displayed for 60 sec. A shutdown process is not performed in the power system.

5.7 OUTLINE OF RS-232C COMMAND

[1] PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.

- PC
 - Application for control
 - 232C cable (straight)
- * The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

[2] USING RS-232C COMMANDS

Individual ports are provided for RS-232C and SR+ connectors with this model. Therefore, unlike the case of previous models, which required switching of exclusive operation between these connectors on the Integrator menu, switching is no longer required.

5.8 LIST OF RS-232C COMMANDS

RS-232C commands can be used in Service Factory mode. Before using RS-232C commands, it is necessary to change the factory presetting. See "5.7 OUTLINE OF RS-232C COMMAND".
[Note ; If you want to see version information (ex. QS1, QSE, Factory, Menu), Please see 10 seconds after starting.]

RS-232C command list

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
A							
ABL	***	Adjusting the upper limit of the power	●		MOD	●	
AMT	S00	Audio mute OFF		●			
	S01	Audio mute ON		●			
AP0	S**	ADDRESS L1, L2 setting	●		MOD	●	Note 1
AP1	S**	ADDRESS L3, L4 setting	●		MOD	●	Note 1
AP2	S**	ADDRESS U1, U2 setting	●		MOD	●	Note 1
AP3	S**	ADDRESS U3, U4 setting	●		MOD	●	Note 1
APN	***	1V average pulse number setting	●		MOD	●	
B							
BCP		Copying the backup data in the EEPROM	●		MOD	●	
BSM	S00	After image/Burning safe mode: OFF	●				
	S01	After image/Burning safe mode: ON	●				
C							
CHN	FWD	Changing tuner preset channel (1 step forward)		●			
	REV	Changing tuner preset channel (1 step reverse)		●			
CBU		Clearing backup data of EEPROM	●		MOD	●	
CHM		Clearing data of the hour meter	●	●	MOD	●	
CHR		Clearing data of the hour meter of MTB/MR side		●			Clear the hour meter of screen display of MAIN NG
CMT		Clearing data of the maximum temperature	●		MOD	●	
CNG		Clearing shutdown history of MTB/MR side		●			
CPC		Clearing power-on count data	●		MOD	●	
CPD		Clearing power-down history	●		MOD	●	
CPM		Clearing data of the pulse meter	●		MOD	●	
CSD		Clearing shutdown history of Panel side	●		MOD	●	
CSF	S00	Color sensor function OFF	●				
	S01	Color sensor function ON	●				
CSM	S01	Color space mode 1: Pioneer original	●				
	S02	Color space mode 2: EBU standard conformity	●				
CSB	***	Blue coefficient of color sensor	●		MOD	●	
CSG	***	Green coefficient of color sensor	●		MOD	●	
CSR	***	Red coefficient of color sensor	●		MOD	●	
CTP	S00	Color temperature switch OFF	●				
	S01	Color temperature switch LOW setting	●				
	S02	Color temperature switch MID LOW setting	●				
	S03	Color temperature switch MID setting	●				
	S04	Color temperature switch MID HIGH setting	●				
	S05	Color temperature switch HIGH setting	●				
D							
DIZ	S00	Dither/L dither OFF & noise OFF	●			●	
	S01	Dither/L dither ON & noise ON	●			●	
	S02	Dither/L dither OFF & noise ON	●			●	
	S03	Dither/L dither ON & noise OFF	●			●	
DRV	S00	Panel drive-power OFF	●				
	S01	Panel drive-power ON	●				
DW*		To subtract * to the adjustment value (* = 0 to 9, subtract 10 with DW0 and set to minimum value with DWF)		●			

Note 1: It is necessary to turn off the power for reflecting the setting change.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
F							
FAJ		Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed"	●		MOD	●	
FAN		Factory mode OFF	●	●		●	
FAY		Factory mode ON	●	●			
FBM	S00	OFF (In-phase SUS drive prohibition)	●		MOD	●	Note 1
	S01	MODE1 (In-phase SUS drive permission)	●		MOD	●	Note 1
FST	S32	Set each memory setting of MTB/MR side to the shipment state.		●		●	PDP-LX5090H only
	S34	Set each memory setting of MTB/MR side to the shipment state.		●		●	PDP-LX5090 only
I							
INA	***	Switching the terrestrial analog signal, direct tuning (***: channel number)		●	MAIN		
		Switching the terrestrial analog signal (Channnel is in the last.)		●	MAIN		
INC	***	Switching the terrestrial digital signal, direct tuning (***:channel number)		●	MAIN		
		Switching the terrestrial digital signal (Channnel is in the last.)		●	MAIN		
IND	***	Switching the satellite digital signal, direct tuning (***:channel number)		●	MAIN		
		Switching the satellite digital signal (Channnel is in the last.)		●	MAIN		
INH	***	Switching the Home Media Gallery / Home Gallery		●			
INP	S01	Input switch: INPUT 1		●	MAIN		
	S02	Input switch: INPUT 2		●	MAIN		
	S03	Input switch: INPUT 3		●	MAIN		
	S04	Input switch: INPUT 4		●	MAIN		
	S05	Input switch: INPUT 5		●	MAIN		
	S06	Input switch: INPUT 6 (PC)		●	MAIN		
M							
MIR	S00	Mirror display mode: OFF	●				
	S01	Mirror display mode: Right and left inversion	●				
	S02	Mirror display mode: Top and bottom inversion	●				
	S03	Mirror display mode: Top and bottom and right and left inversion	●				
MKC	S00	MASK OFF	●		MOD		
	S01	H ramp (slant 1) M	●		MOD	●	
	S02	H ramp (slant 4) M	●		MOD	●	
	S03	Slanting ramp M	●		MOD	●	
	S04	30 for aging	●		MOD	●	
	S05	05 for aging	●		MOD	●	
	S06	Erasing afterimage 1	●		MOD	●	
	S07	Erasing afterimage 2	●		MOD	●	
	S08	White (change in luminance level)	●		MOD	●	
	S09	PEAK detection raster	●		MOD	●	
	S10	Address lack check	●		MOD	●	
	S11	Green vertical line scroll	●		MOD	●	
	S12	Green horizontal line scroll	●		MOD	●	
	S13	Vertical ramp vertical scroll (white)	●		MOD	●	
	S14	Vertical ramp vertical scroll (green)	●		MOD	●	
	S15	Horizontal ramp horizontal scroll (white)	●		MOD	●	
	S16	Horizontal ramp horizontal scroll (green)	●		MOD	●	
S17	Cross hatch + window	●		MOD	●		
MKS	S00	MASK OFF	●		MOD		
	S01	H ramp (slant 1)	●		MOD	●	
	S02	H ramp (slant 4)	●		MOD	●	

Note 1: It is necessary to turn off the power for reflecting the setting change.

A

B

C

D

E

F

Command Name	Function		Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
M							
MKS	S03	V ramp (slant 1)	●		MOD	●	
	S04	Slanting ramp	●		MOD	●	
	S05	Window (Hi= 870, Lo= 102)	●		MOD	●	
	S06	Window (Hi= 1023, Lo= 102)	●		MOD	●	
	S07	Window (Hi= 1023, Lo=000)	●		MOD	●	
	S08	Window (Hi= 1023) 4 %	●		MOD	●	
	S09	Window (Hi= 1023) 1.25 %	●		MOD	●	
	S10	Window (1/7 LINE)	●		MOD	●	
	S11	STRIPE (MGT/GRN)	●		MOD	●	
	S12	STRIPE (GRN/MGT)	●		MOD	●	
	S13	B & W, checker (1 line)	●		MOD	●	
	S14	B & W, checker (2 lines)	●		MOD	●	
	S15	B & W, checker (4 lines)	●		MOD	●	
	S16	B & W, checker (8 lines)	●		MOD	●	
	S17	COLOR BAR	●		MOD	●	
	S18	Slanting lines	●		MOD	●	
	S19	Red & black, checker (1 line)	●		MOD	●	
	S20	Red & black, checker (2 lines)	●		MOD	●	
	S21	Red & black, checker (4 lines)	●		MOD	●	
	S22	Red & black, checker (8 lines)	●		MOD	●	
	S23	Erasing afterimage (RGB: zigzag, V: reverse)	●		MOD	●	
	S24	Black raster (max SUS pulses)	●		MOD	●	Note 5
	S25	1 for perfect linear	●		MOD	●	
	S26	2 for perfect linear	●		MOD	●	
	S27	3 for perfect linear	●		MOD	●	
	S28	4 for perfect linear	●		MOD	●	
	S29	RGB checker 1	●		MOD	●	
	S30	RGB checker 2	●		MOD	●	
	S31	Window RED (RED=1023)	●		MOD	●	
	S32	Window GREEN (GREEN=1023)	●		MOD	●	
	S33	Window BLUE (BLUE=1023)	●		MOD	●	
	S34	Even line horizontal stripes	●		MOD	●	
	S35	Odd line horizontal stripes	●		MOD	●	
	S36	Afterimage check 1	●		MOD	●	
	S37	Afterimage check 2	●		MOD	●	
	S38	Afterimage check 3	●		MOD	●	
	S39	Afterimage check 4	●		MOD	●	
	S40	Red single-color slanting ramp	●		MOD	●	
	S41	GREEN single-color slanting ramp	●		MOD	●	
	S42	BLUE single-color slanting ramp	●		MOD	●	
	S43	For panel light check 1	●		MOD	●	
	S44	For panel light check 2	●		MOD	●	
	S45	5 for perfect linear	●		MOD	●	
	S46	6 for perfect linear	●		MOD	●	
	S47	7 for perfect linear	●		MOD	●	
	S48	8 for perfect linear	●		MOD	●	
	S49	Mask for ABL adjustment	●		MOD	●	

Note 5: Peak luminance detection function (PKD) modification is impossible.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
MKR	S00	MASK OFF	●		MOD		
	S01	Raster - White	●		MOD	●	
	S02	Raster - Red	●		MOD	●	
	S03	Raster - Green	●		MOD	●	
	S04	Raster - Blue	●		MOD	●	
	S05	Raster - Black	●		MOD	●	
	S06	Raster - Cyan	●		MOD	●	
	S07	Raster - Magenta	●		MOD	●	
	S08	Raster - Yellow	●		MOD	●	
	S09	Raster - Pink	●		MOD	●	
	S10	Raster - Yellow egg color	●		MOD	●	
	S11	Raster - Light blue	●		MOD	●	
	S12	Raster - Beige	●		MOD	●	
	S13	Raster - Yellow green	●		MOD	●	
	S14	Raster - Cyan 120	●		MOD	●	
	S15	Raster - Magenta 120	●		MOD	●	
	S16	Raster - Yellow 120	●		MOD	●	
	S17	Raster - Gray 120	●		MOD	●	
	S18	Raster - Red 626	●		MOD	●	
	S19	Raster - Green 626	●		MOD	●	
	S20	Raster - Blue 626	●		MOD	●	
	S21	Raster - Red 1023+	●		MOD	●	
	S22	Raster - Green 1023+	●		MOD	●	
	S23	Raster - Blue 1023+	●		MOD	●	
	S24	Raster - Green 225	●		MOD	●	
	S25	Raster - Gray 307	●		MOD	●	
MSE	S00	Product form : one body/monitor model	●		MOD	●	Note 1
	S01	Product form : System model	●		MOD	●	Note 1
MST	S00	Display one screen		●			
	S01	PsideP (Main size: normal)		●			
	S02	PinP (Right down)		●			
	S03	PinP (Right up)		●			
	S04	PinP (Left down)		●			
	S05	PinP (Left up)		●			
	S08	SWAP (Exchanging sub-screen)		●			
N							
NGP	S00	Negative positive inversion: OFF	●				
	S01	Negative positive inversion: ON	●				
O							
OSD	S00	OSD display setting: OFF		●	MAIN		
	S01	OSD display setting: ON		●	MAIN		
P							
PAV	S00	AV selection: FACTORY	●				
	S01	AV selection: STANDARD / PERFORMANCE	●				
	S02	AV selection: DYNAMIC	●				
	S03	AV selection: MOVIE	●				
	S04	AV selection: GAME	●				
	S05	AV selection: SPORT	●				
	S06	AV selection: PURE	●				
	S07	AV selection: USER	●				

Note 1: It is necessary to turn off the power for reflecting the setting change.

A

Command Name	Function		Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
P							
PAV	S08	AV selection: isf-DAY	●				
	S09	AV selection: isf-NIGHT	●				
	S10	AV selection: OPTIMUM	●				
	S11	AV selection: isf-AUTO	●				
	S12	AV selection: Standard	●				
	S13	AV selection: Reserved (Australian standard)	●				
PBH	***	Panel white balance adjustment - Blue highlight	●		MOD	●	
PBL	***	Panel white balance adjustment - Blue low light	●		MOD	●	
PBX	***	Panel Bx measuring value	●		MOD	●	
PBY	***	Panel By measuring value	●		MOD	●	
PCS	S00	Normal operation	●				
	S01	Catalog specification operation	●				
PDM	S00	Passing PD signals to the POWER SUPPLY Unit => Power-down	●				
	S01	Not passing PD signals to the POWER SUPPLY Unit => No power-down	●				
PES	S00	For general-purpose commonness: Standard	●				
	S01	For general-purpose commonness: Energy saving 1	●				
	S02	For general-purpose commonness: Energy saving 2	●				
	S10	For general-purpose Japan standard: Standard	●				
	S11	For general-purpose Japan standard: Energy saving 1	●				
	S12	For general-purpose Japan standard: Energy saving 2	●				
PFL	S**	Center luminance correction	●				
	S00	Peripheral luminance correction: OFF	●				
	S01	Peripheral luminance correction: ON fixed	●				
	S02	Peripheral luminance correction: APL interlocked ON	●				
PFN		Factory mode at panel side: OFF	●			●	
PFS		Setup the panel side to shipment	●		MOD	●	
PFY		Factory mode at panel side: ON	●				Note 2
PGB	S00	Blue gamma setting: Straight	●				
	S01	Blue gamma setting: Fixed on 1.6	●				
	S02	Blue gamma setting: Fixed on 1.7	●				
	S03	Blue gamma setting: Fixed on 1.8	●				
	S04	Blue gamma setting: Fixed on 1.9	●				
	S05	Blue gamma setting: Fixed on 2.0	●				
	S06	Blue gamma setting: Fixed on 2.1	●				
	S07	Blue gamma setting: Fixed on 2.2	●				
	S08	Blue gamma setting: Fixed on 2.3	●				
	S09	Blue gamma setting: Fixed on 2.4	●				
	S10-31	Blue gamma setting: Customize	●				
	PGG	S00	Green gamma setting: Straight	●			
S01		Green gamma setting: Fixed on 1.6	●				
S02		Green gamma setting: Fixed on 1.7	●				
S03		Green gamma setting: Fixed on 1.8	●				
S04		Green gamma setting: Fixed on 1.9	●				
S05		Green gamma setting: Fixed on 2.0	●				
S06		Green gamma setting: Fixed on 2.1	●				
S07		Green gamma setting: Fixed on 2.2	●				
S08		Green gamma setting: Fixed on 2.3	●				
S09		Green gamma setting: Fixed on 2.4	●				
S10-31		Green gamma setting: Customize	●				
PGH		***	Panel white balance adjustment - Green highlight	●		MOD	●

Note 2: Mask setting and the picture quality setting of MTB are not changed.

Command Name	Function		Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
P							
PGL	***	Panel white balance adjustment - Green low light	●		MOD	●	
PGX	***	Panel Gx measuring value	●		MOD	●	
PGY	***	Panel Gy measuring value	●		MOD	●	
PGR	S00	Red gamma setting: Straight	●				
	S01	Red gamma setting: Fixed on 1.6	●				
	S02	Red gamma setting: Fixed on 1.7	●				
	S03	Red gamma setting: Fixed on 1.8	●				
	S04	Red gamma setting: Fixed on 1.9	●				
	S05	Red gamma setting: Fixed on 2.0	●				
	S06	Red gamma setting: Fixed on 2.1	●				
	S07	Red gamma setting: Fixed on 2.2	●				
	S08	Red gamma setting: Fixed on 2.3	●				
	S09	Red gamma setting: Fixed on 2.4	●				
	S10-31	Redt gamma setting: Customize	●				
	PKD	S00	Peak luminance detection: OFF	●			●
S01		Peak luminance detection: ON	●			●	
PKL	S00	No brightness limitation : 100 %	●				
	S01	Brightness limitation 1 : 87 %	●				
	S02	Brightness limitation 2 : 73 %	●				
	S03	Brightness limitation 3 : 60 %	●				
	S04	Brightness limitation 4 : 52 %	●				
	S05	Brightness limitation 5 : 40 %	●				
	S06	Brightness limitation 6 : 27 %	●				
	S07	Brightness limitation 7 : 13 %	●				
PMT	S00	Canceling panel muting	●				Note 3
	S01	Panel muting	●				
POF		Power OFF	●	●	MAIN		
PON		Power ON	●	●	MAIN		
PPT	S00	Panel protection function: OFF	●			●	
	S01	Panel protection function: ON	●			●	
PRH	***	Panel white balance adjustment - Red highlight	●		MOD	●	
PRL	***	Panel white balance adjustment - Red low light	●		MOD	●	
PRX	***	Panel Rx measuring value	●		MOD	●	
PRY	***	Panel Ry measuring value	●		MOD	●	
PUC	S00	Pure cinema: OFF		●	MAIN	●	
	S01	Pure cinema: Standard		●	MAIN	●	
	S02	Pure cinema: Advance		●	MAIN	●	
	S03	Pure cinema: Smooth		●	MAIN	●	
Q							
QAJ		Acquiring various adjustment values of the panel side	●				
QMT		Acquiring temperature of MTB/MR side and Fan speed		●			
QNG		Acquiring shutdown information of MTB/MR side		●			
QPD		Acquiring logs of power-down points	●				
QPM		Acquiring data of the pulse meter	●				
QPW		Acquiring panel white balance adjustment values	●				
QPF		Acquiring characteristic / function setting values of the panel side	●				
QS1		Acquiring unit data, such as the software version	●	●			
QS2		Acquiring data on the status of the unit, such as temperature	●				

Note 3: The mute is unable while displaying the internal mask.

A

Command Name			Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
				MDU	MTB			
Q								
QS3			Each information output for panel	●				
QS5			Each information output for panel (individual function)	●				
QSE			Acquiring unit data, such as the software version of MTB/MR side (specific destination)		●			
QSP			Acquiring sub-version of the microcomputer for panel	●				
QSD			Acquiring data on shutdown	●				
QSI			Acquiring data related with signals	●				
R								
R1K	***		First reset (wedge width)	●		MOD	●	
R2K	***		Second reset (wedge width)	●		MOD	●	
RBL	S00-07		BLUE setting for panel degradation correction : Level 0 to 7	●		MOD	●	Note 1
RGL	S00-07		GREEN setting for panel degradation correction : Level 0 to 7	●		MOD	●	Note 1
RLS	S00		Room light sensor operation : OFF	●				
	S01-05		Room light sensor operation : 1 to 5	●				
RRL	S00-07		RED setting for panel degradation correction : Level 0 to 7	●		MOD	●	Note 1
S								
SAT	***		Timing adjustment between the scan and address	●		MOD	●	
SCW	S00		Normal operation	●				
	S01		Draw the warning blue window (left side)	●				
	S02		Draw the warning red window (right side)	●				
SDF	S00		SRS DEFINITION: OFF		●			
	S01		SRS DEFINITION: DEFINITION1		●			
	S02		SRS DEFINITION: DEFINITION2		●			
	S03		SRS DEFINITION: DEFINITION3		●			
SDM	S00		Shutdown enabled	●				
	S01		Shutdown prohibited	●				
SFR	S01-08		Measures against AM radio noise - Pattern 1 to 8	●		MOD	●	Note 1
SKM	S00		STREAKING correction mode OFF	●		MOD	●	
	S01-08		STREAKING correction mode Setting mode 1 to 8	●		MOD	●	
SMC	S00		Smooth clear drive OFF	●			●	
	S01		Smooth clear drive ON	●			●	
SML	***		Adjustment of the side mask level		●	MAIN	●	
SN0	***		Setting of the serial No. 0 (panel)	●		MOD	●	
SN1	***		Setting of the serial No. 1 (panel)	●		MOD	●	
SN2	***		Setting of the serial No. 2 (panel)	●		MOD	●	
SN3	***		Setting of the serial No. 3 (panel)	●		MOD	●	
SN4	***		Setting of the serial No. 4 (panel)	●		MOD	●	
SQM	S01		VIDEO sequence setting	●				
	S02		PC sequence setting	●				
	S03		FILM sequence setting	●				
SRS	S00		SRS: OFF		●			
	S01		SRS: SRS1		●			
	S02		SRS: SRS2		●			
	S03		SRS: SRS3		●			
SSM	S00		SSCG OFF	●			●	
	S01		SSCG ON	●			●	
SWA	***		Estimated value of the illuminant color (absolute value)	●				
SWF	S00		Reflection of the estimated information of the illuminant color: OFF	●				
	S01		Reflection of the estimated information of the illuminant color: ON	●				
SWR	***		Estimated value of the illuminant color (relative value)	●				

Note 1: It is necessary to turn off the power for reflecting the setting change.

Command Name	Function		Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
S							
SZM	S00	Setting the screen size to Dot by Dot		●	MAIN		
	S01	Setting the screen size to 4 :3		●	MAIN		
	S02	Setting the screen size to FULL or FULL 1080i		●	MAIN		
	S03	Setting the screen size to ZOOM		●	MAIN		
	S04	Setting the screen size to CINEMA		●	MAIN		
	S05	Setting the screen size to WIDE or WIDE1		●	MAIN		
	S06	Setting the screen size to FULL 14:9		●	MAIN		
	S07	Setting the screen size to CINEMA 14:9		●	MAIN		
	S11	Setting the screen size to AUTO		●	MAIN		
	S12	Setting the screen size to WIDE2		●	MAIN		
T							
TBS	S00	TRUBASS: OFF		●			
	S01	TRUBASS: TRUBASS1		●			
	S02	TRUBASS: TRUBASS2		●			
	S03	TRUBASS: TRUBASS3		●			
THS	S00	Theater port interlock operation OFF	●				
	S01	Theater port interlock operation ON	●				
U							
UAJ		Determining the flag for the DIGITAL Assy adjustment in "not adjusted"	●		MOD	●	
UP*		To add * to the adjustment value (* = 0 to 9, add 10 with UP0 and set to maximum value with UPF)		●			
V							
V1F	***	Adjustment of the reference value of Vyknofs 1, 2 voltage	●		MOD	●	
V3F	***	Adjustment of the reference value of Vyknofs 3 voltage	●		MOD	●	
V4F	***	Adjustment of the reference value of Vyknofs 4 voltage	●		MOD	●	
VFQ	S02	Setting the frequency in Mask mode to VD-50 Hz	●		MOD	●	
	S03	Setting the frequency in Mask mode to VD-60 Hz	●		MOD	●	
	S05	Setting the frequency in Mask mode to VD-72 Hz	●		MOD	●	
	S06	Setting the frequency in Mask mode to VD-75 Hz-1	●		MOD	●	
	S07	Setting the frequency in Mask mode to VD-75 Hz-2	●		MOD	●	
	S13	Setting the frequency in Mask mode to PC-60 Hz	●		MOD	●	
VOF	***	Adjustment of the reference value of Vysnofs voltage	●		MOD	●	
VOL	UP*, DW*, ***	To adjust the volume		●			Note 4
VRP	***	Adjustment of the reference value of Vyprst voltage	●		MOD	●	
VSU	***	Adjustment of the reference value of Vsus voltage	●		MOD	●	
VX1	***	Adjustment of the reference value of Vxpofs1 voltage	●		MOD	●	
VX2	***	Adjustment of the reference value of Vxpofs2 voltage	●		MOD	●	
VYF	***	Adjustment of the reference value of Δ Vyknofs1, 2/3/4 voltage	●		MOD	●	
W							
WBI	S00	Panel WB standard output mode: OFF	●			●	
	S01	Panel WB standard output mode: ON	●			●	
X							
X1B	***	3SF and later-first XSUS (resonance up width)	●		MOD	●	
X3B	***	2SF-third XSUS (resonance up width)	●		MOD	●	
XSB	***	2SF-repeat XSUS (resonance up width)	●		MOD	●	

Note 4: Use this command by designating the adjustment value *** (=000 to 060).

A

Command Name			Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
				MDU	MTB			
Y								
Y1K	***		1SF-YSUS-Tail (wedge width)	●		MOD	●	
Y1Z	***		1SF-YSUS-Tail (resonance down width)	●		MOD	●	
Y2B	***		2SF-second YSUS (resonance up width)	●		MOD	●	
Y2K	***		2SF-YSUS-Tail (wedge width)	●		MOD	●	
Y2Z	***		2SF-YSUS-Tail (resonance down width)	●		MOD	●	
YNK	***		3SF and later (SSF 2 pulses)-YSUS Tail (wedge width)	●		MOD	●	
YTK	***		3SF and later-YSUS Tail (wedge width)	●		MOD	●	
YTZ	***		3SF and later-YSUS Tail (resonance down width)	●		MOD	●	
YSB	***		2SF-repeat YSUS (resonance up width)	●		MOD	●	
Z								
ZME	***		Initializing the video EEPROM data of the MTB/MR side		●		●	

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A [2] QS2 (PANEL OPERATION DATA)

The command QS2 is for acquiring data on the panel's operational information.

Command Format	Effective Operation Modes	Function	Remarks
[QS2]	Every Time	Output of status	Return data: 3 (ECO) + 34 (DATA) + 2 (CS) = 39 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS2
1	Notify of the standby operation transition	1 byte	1
2	Adjustment flag of the main unit	1 byte	0
3	Adjustment-data backup flag	1 byte	0
4	"1st PD" data	1 byte	0
5	"2nd PD" data	1 byte	0
6	Color sensor data	1 byte	0
7	Reserved	2 byte	**
8	Temperature data (TEMP 1)	3 byte	128
9	SD data	1 byte	0
10	SD subcategory data	1 byte	0
11	Operation status induced by SD	1 byte	0
12	Reserved	3 byte	***
13	HOUR METER	8 byte	00000259
14	MASK indication	1 byte	0
15	Still picture detection	1 byte	0
16	SCAN protection detection	1 byte	0
17	Panel crack detection	1 byte	0
18	Address emergency detection	1 byte	0
19	Reserved	4 byte	****
CS	2 Byte	2 byte	4A

9: SD data

0	No SD
1	SQ_LSI
2	MDU-DEVICE
3	RST2
4	Panel temperature

10-1: SD subcategory (SQ_LSI)

0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (H/M)
6	Version mismatching (H/I)

10-2: SD subcategory (MDU-DEVICE)

0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

10-3: SD subcategory (Panel temperature)

0	No SD-Sub data
1	Panel high temperature
2	Panel low temperature

11: Operation status induced by SD

0	Normal
1	Relay-off completed
2	During warning indication

14: MASK indication

0	MASK-OFF
1	MASK-ON

15 to 18: Detection of Each Protection function

0	Normal operation
1	At detection of protection operation

1: Power supply status

P	During power ON
0	Shifting to Passive Standby is not possible.
1	Shifting to Passive Standby is possible.

2: Adjustment flag of the main unit

0	Adjustment completed
1	Adjustment not completed

3: Adjustment-data backup flag

0	Adjustment completed
1	Adjustment not completed

4, 5: PD data

0	No PD data
2	POWER
3	SCAN
4	SCN-5V
6	Y-DCDC
7	Y-SUS
8	ADRS
A	X-DCDC
B	X-SUS
C	DIG-DCDC
F	UNKNOWN

6: Color sensor data

-	Function OFF (including standby)
0	Normal
1	Hardware connection is not completed
2	Data mismatching

[3] QS3 (OTHER DATA ON THE PANEL)

The command QS3 is for acquiring data on operational information of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QS3]	Every Time	Output of status	Return data: 3 (ECO) + 58 (DATA) + 2 (CS) = 63 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS3
1	SERIAL	15 byte	-----
2	HOURLY METER	8 byte	00000000
3	TOTAL HR METER	8 byte	00000000
4	PON COUNTER	8 byte	00000000
5	Panel temperature (*1)	5 byte	23.5
6	Reserved (TEMP0 acquisition)	5 byte	__ _'
7	MAX panel temperature history (*1)	5 byte	78.3
8	Reserved	4 byte	****
CS	2 Byte	2 byte	94

Note
(*1) : Centigrade scale

[4] QS5 (COLOR SENSOR DATA)

The command QS5 is for acquiring the color sensor information.

Command Format	Effective Operation Modes	Function	Remarks
[QS5]	Every Time	Output of status	Return data: 3 (ECO) + 45 (DATA) + 2 (CS) = 50 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS5
1	Color sensor data (Note)	1 byte	2
2	RED data of color sensor	4 byte	0425
3	GREEN data of color sensor	4 byte	2112
4	BLUE data of color sensor	4 byte	5000
5	Reserved	32 byte	** to **
CS	2 Byte	2 byte	94

Note: The color sensor data is output as the same data as QS2.

A [5] QSP (SUB VERSION OF THE PANEL SECTION)

The command QSP is for acquiring sub version data on software of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QSP]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSP
1	MDUcom-PRG	8 byte	=01Y
2	MDUcom-DATA_TBL	8 byte	=01Y ''''
3	SQ_LSI-PRG	4 byte	=01Y
4	SQ_LSI-PIC_TBL	8 byte	=01Y ''''
5	SQ_LSI-SEQ_DATA	4 byte	=01Y
6	Reserved	8 byte	*****
CS	2 Byte	2 byte	A3

C

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[6] QAJ (PANEL ADJUSTMENT DATA)

The command QAJ is for acquiring the panel's factory-preset data.

Command Format	Effective Operation Modes	Function	Remarks
[QAJ]	Every Time	Output of status	Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QAJ
1	Vsus adjustment value	3 byte	128
2	Vysnfs adjustment value	3 byte	128
3	Vyprst adjustment value	3 byte	128
4	Vxpofs1 adjustment value	3 byte	128
5	Vxpofs2 adjustment value	3 byte	128
6	Vyknofs1,2 adjustment value	3 byte	128
7	Vyknofs3 adjustment value	3 byte	128
8	Vyknofs4 adjustment value	3 byte	128
9	Δ Vyknofs1,2/3/4 adjustment value	3 byte	128
10	Reserved	6 byte	*****
11	R1K adjustment value	3 byte	128
12	R2K adjustment value	3 byte	128
13	Y1K adjustment value	3 byte	128
14	Y1Z adjustment value	3 byte	128
15	X1B adjustment value	3 byte	128
16	Y2B adjustment value	3 byte	128
17	X3B adjustment value	3 byte	128
18	YSB adjustment value	3 byte	128
19	XSB adjustment value	3 byte	128
20	YTK adjustment value	3 byte	128
21	YTZ adjustment value	3 byte	128
22	Y2K adjustment value	3 byte	128
23	Y2Z adjustment value	3 byte	128
24	YNK adjustment value	3 byte	128
25	SAT adjustment value	3 byte	128
26	Reserved	3 byte	***
27	AM radio countermeasure	1 byte	1
28	Reserved	2 byte	**
CS	2 Byte	2 byte	B7

27: AM radio countermeasure

n	n: 1 to 8 (SUS frequency n)
---	-----------------------------

[7] QPW (VIDEO ADJUSTMENT DATA OF THE PANEL)

The command QPW is for acquiring the factory-preset data about the video of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPW]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement	Data Length	Output Example
ECO	3 byte	QPW
1 Type of drive sequence (Note 1)	4 byte	60VS
2 ABL adjustment table	1 byte	1
3 Type of WB adjustment table (Note 1)	1 byte	1
4 ABL adjustment value	3 byte	128
5 R-HIGH adjustment value	3 byte	256
6 G-HIGH adjustment value	3 byte	256
7 B-HIGH adjustment value	3 byte	256
8 R-LOW adjustment value	3 byte	512
9 G-LOW adjustment value	3 byte	512
10 B-LOW adjustment value	3 byte	512
11 R gamma setting	2 byte	31
12 G gamma setting	2 byte	10
13 B gamma setting	2 byte	10
14 Streaking correction	1 byte	1
15 Center luminance correction	1 byte	0
16 Reserved	1 byte	*
17 Interlocked with APL	1 byte	0
18 Transition of protective operations	1 byte	0
19 Reserved	2 byte	**
CS 2 Byte	2 byte	37

1: Type of Drive sequence

50VS	Video 50 Hz
60VS	Video 60 Hz
72VS	Video 72 Hz
75V1	Video 75-1 Hz
75V2	Video 75-2 Hz
60PS	PC 60 Hz

2: ABL adjustment table

n	n: 1 to 3
---	-----------

3: Type of WB adjustment table

n	n: 1 to 4
---	-----------

11, 12, 13: RGB Gamma setting

n	00 to 31
---	----------

15: Center luminance correction

0	OFF
1	ON
2	ON (interlocked with APL)

17: Interlocked with APL

0	OFF
1	ON
2	WB interlocked ON/ γ OFF
3	WB interlocked OFF/ γ ON

18: Transition of protective operations

0	Upper limit state for brightness
1	Brightness being reduced
2	Lower limit state for brightness
3	Brightness being increased

Note 1: The "75 Hz-2" Drive Sequence type signals and WB Adjustment Table 4 are output only when "75 Hz-2" (VFQS07) is selected for internal signals (mask signals).
When external signals are selected and the Drive Sequence type is 75 Hz, "75 Hz-1" is output because "75 Hz-1" and "75 Hz-2" are not distinguished for external signals.

[8] QPF (FUNCTION OF THE PANEL)

The command QPF is for acquiring the characteristic and the function setting value of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPF]	Every Time	Output of status	Return data: 3 (ECO) + 69 (DATA) + 2 (CS) = 74 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPF
1	R-REVISE setting value	1 byte	0
2	G-REVISE setting value	1 byte	0
3	B-REVISE setting value	1 byte	0
4	Reserved	3 byte	***
5	ADDRESS L1,L2 setting value	2 byte	01
6	ADDRESS L3,L4 setting value	2 byte	13
7	ADDRESS U1,U2 setting value	2 byte	32
8	ADDRESS U3,U4 setting value	2 byte	30
9	Reserved	4 byte	****
10	Streaking correction	1 byte	1
11	Full-screen black display mode	1 byte	1
12	Reserved	4 byte	****
13	PANEL RX	3 byte	512
14	PANEL RY	3 byte	512
15	PANEL GX	3 byte	512
16	PANEL GY	3 byte	512
17	PANEL BX	3 byte	512
18	PANEL BY	3 byte	512
19	Reserved	6 byte	*****
20	Color sensor R coefficient	3 byte	***
21	Color sensor G coefficient	3 byte	***
22	Color sensor B coefficient	3 byte	***
23	Reserved	12 byte	** to **
CS	2 Byte	2 byte	37

1: 2: 3: RGB-REVISE setting value

n	n: 0 to 7 (Level n)
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5 to 8: ADDRESS α , β setting

nm	n: 0 to 9 (Address α setting PHASE n)
	m: 0 to 9 (Address β setting PHASE m)

10: Streaking correction

0	OFF
n	n: 1 to 8 (Mode n)

11: Full-screen black display mode

0	OFF (In-phase SUS drive prohibition)
1	MODE1 (In-phase SUS drive permission)

[9] QPM (PULSE METER VALUE)

The command QPM is for acquiring the accumulated pulse count.

Command Format	Effective Operation Modes	Function	Remarks
[QPM]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPM
1	Pulse meter B 1	8 byte	00000000
2	Pulse meter B 2	8 byte	00000000
3	Pulse meter B 3	8 byte	00000000
4	Pulse meter B 4	8 byte	00000000
5	Pulse meter B 5	8 byte	00000000
CS	2 Byte	2 byte	E7

Note:

The minimum for a returned value of the pulse meter for each block (B1-B2) is one million.

A [10] QPD (POWER DOWN LOGS)

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QPD]	Every Time	Output of status	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPD
1	Latest "1st PD" data	1 byte	A
2	Latest "2nd PD" data	1 byte	2
3	Data from the hour meter for the latest PD	8 byte	00010020
4	Second latest "1st PD" data	1 byte	E
5	Second latest "2nd PD" data	1 byte	9
6	Data from the hour meter for the second latest PD	8 byte	00008523
7	Third latest "1st PD" data	1 byte	4
8	Third latest "2nd PD" data	1 byte	3
9	Data from the hour meter for the third latest PD	8 byte	00004335
10	Fourth latest "1st PD" data	1 byte	2
11	Fourth latest "2nd PD" data	1 byte	0
12	Data from the hour meter for the fourth latest PD	8 byte	00000945
13	Fifth latest "1st PD" data	1 byte	4
14	Fifth latest "2nd PD" data	1 byte	0
15	Data from the hour meter for the fifth latest PD	8 byte	00000715
16	Sixth latest "1st PD" data	1 byte	A
17	Sixth latest "2nd PD" data	1 byte	2
18	Data from the hour meter for the sixth latest PD	8 byte	00000552
19	Seventh latest "1st PD" data	1 byte	A
20	Seventh latest "2nd PD" data	1 byte	0
21	Data from the hour meter for the seventh latest PD	8 byte	00000213
22	Eighth latest "1st PD" data	1 byte	D
23	Eighth latest "2nd PD" data	1 byte	0
24	Data from the hour meter for the eighth latest PD	8 byte	000001A7
CS	2 Byte	2 byte	27

• PD data

0	No PD
2	P-POWER
3	SCAN
4	SCN-5V
6	Y-DCDC
7	Y-SUS
8	Address
A	X-DCDC
B	X-SUS
C	DIGI-DCDC
F	UNKNOWN

[11] QSD (SHUTDOWN LOGS of the Panel Section)

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs of the panel section.

Command Format	Effective Operation Modes	Function	Remarks
[QSD]	Every Time	Output of status	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSD
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the hour meter for the latest SD	8 byte	00752013
4	Second latest SD data	1 byte	5
5	Second latest SD subcategory data	1 byte	0
6	Data from the hour meter for the second latest SD	8 byte	00495204
7	Third latest SD data	1 byte	2
8	Third latest SD subcategory data	1 byte	3
9	Data from the hour meter for the third latest SD	8 byte	00100355
10	Fourth latest SD data	1 byte	2
11	Fourth latest SD subcategory data	1 byte	5
12	Data from the hour meter for the fourth latest SD	8 byte	00075620
13	Fifth latest SD data	1 byte	1
14	Fifth latest SD subcategory data	1 byte	0
15	Data from the hour meter for the fifth latest SD	8 byte	00000852
16	Sixth latest SD data	1 byte	2
17	Sixth latest SD subcategory data	1 byte	2
18	Data from the hour meter for the sixth latest SD	8 byte	00000451
19	Seventh latest SD data	1 byte	0
20	Seventh latest SD subcategory data	1 byte	0
21	Data from the hour meter for the seventh latest SD	8 byte	00000000
22	Eighth latest SD data	1 byte	0
23	Eighth latest SD subcategory data	1 byte	0
24	Data from the hour meter for the eighth latest SD	8 byte	00000000
CS	2 Byte	2 Byte	7D

• SD data

0	No SD
1	SQ_LSI
2	MDU-DEVICE
3	RST2
4	Panel temperature

• SD subcategory (SQ_LSI)

0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (H/M)
6	Version mismatching (H/I)

• SD subcategory (MDU-DEVICE)

0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

• SD subcategory (Panel temperature)

0	No SD-Sub data
1	TEMP1 (high temperature)
2	TEMP1 (low temperature)

[12] QSE (DESTINATION PECULIAR INFORMATION)

Induce it peculiar, individual information is acquired.

• For PDP-LX5090

Command Format	Effective Operation Modes	Function	Remarks
[QSE]	Every time	Output of status	Return data: 3 (ECO) + 12 (DATA) + 2 (CS) = 17 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSE
1	Reserved	4 byte	****
2	DTB HARDWARE version	4 byte	FFFF
3	User setting password	4 byte	1234
CS	Check Sum	2 byte	13

• For PDP-LX5090H

Command Format	Effective Operation Modes	Function	Remarks
[QSE]	Every time	Output of status	Return data: 3 (ECO) + 28 (DATA) + 2 (CS) = 33 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSE
1	Check flag for production	1 byte	E
2	Reserved	3 byte	***
3	DTB HARDWARE version	4 byte	0342
4	Reserved	16 byte	*****
5	User setting password	4 byte	1234
CS	Check Sum	2 byte	13

[13] QMT (STATUS INFORMATION OF MTB/MR SECTION)

Temperature information / FAN rotation state / Room light sensor information on the MTB/MR section is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QMT]	Every time	Output of status	Return data: 3 (ECO) + 8 (DATA) = 11 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QMT
1	A/D value of temperature of MTB/MR section	3 byte	276
2	FAN rotating speed of MTB/MR section (0: STOP, 1: LOW, 2: HIGH)	1 byte	1
3	A/D value of room light sensor	3 byte	009
4	Level of room light sensor (Value: 1 to 5)	1 byte	5

* Returned each block.

[14] QNG (SHUTDOWN INFORMATION OF MTB SECTION)

The command QNG is for acquiring the data from the 8 latest shutdown (SD) logs of the MTB section.

Command Format	Effective Operation Modes	Function	Remarks
[QNG]	Every time	To acquire data on the shutdown (NG) logs of MTB side	Return data: 3 (ECO) + 96 (DATA) + 2 (CS) = 101 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QNG
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the MTB hour meter for the latest SD	7 byte	0752013
4	Reserved	3 byte	000 fixed
5	Second latest SD data	1 byte	5
6	Second latest SD subcategory data	1 byte	1
7	Data from the MTB hour meter for the second latest SD	7 byte	0495204
8	Reserved	3 byte	000 fixed
9	Third latest SD data	1 byte	A
10	Third latest SD subcategory data	1 byte	2
11	Data from the MTB hour meter for the third latest SD	7 byte	0365814
12	Reserved	3 byte	000 fixed
13	Fourth latest SD data	1 byte	5
14	Fourth latest SD subcategory data	1 byte	0
15	Data from the MTB hour meter for the fourth latest SD	7 byte	0256612
16	Reserved	3 byte	000 fixed
17	Fifth latest SD data	1 byte	7
18	Fifth latest SD subcategory data	1 byte	2
19	Data from the MTB hour meter for the fifth latest SD	7 byte	0105628
20	Reserved	3 byte	000 fixed
21	Sixth latest SD data	1 byte	B
22	Sixth latest SD subcategory data	1 byte	0
23	Data from the MTB hour meter for the sixth latest SD	7 byte	0003009
24	Reserved	3 byte	000 fixed
25	Seventh latest SD data	1 byte	C
26	Seventh latest SD subcategory data	1 byte	1
27	Data from the MTB hour meter for the seventh latest SD	7 byte	00002A9
28	Reserved	3 byte	000 fixed
29	Eighth latest SD data	1 byte	C
30	Eighth latest SD subcategory data	1 byte	4
31	Data from the MTB hour meter for the eighth latest SD	7 byte	0000012
32	Reserved	3 byte	000 fixed
CS	2 Byte	2 Byte	7D

< SD Information No. >

Frequency *	Shutdown Factor	Remarks (Operation)
1	Failure of Power Supply of VCC	Immediately Shutdown
5	Shutdown signal from D-Amp. / short-circuit of speaker terminal	Go to No. 5 Subcategory Information
6	Failure of communication with Module microcomputer	Immediately Shutdown
7	Failure in 3-wire serial communication of Main microcomputer	Go to No. 7 Subcategory Information
8	Failure in IIC communication of Main microcomputer	Go to No. 8 Subcategory Information
9	Failure in Communication of Main microcomputer	Immediately Shutdown
10(A)	Abnormally in FAN	Go to No. 10 Subcategory Information
11(B)	Abnormally in high temperature	Immediately Shutdown
12(C)	Failure in Digital Tuner	Go to No. 12 Subcategory Information
13(D)	Failure in Power Supply at MTB section	Go to No. 13 Subcategory Information
15(F)	Failure in Main EEPROM	Immediately Shutdown

*: Indicates the frequency of Blue LED flashing when the shutdown is occurred.

< No. 5 Subcategory Information on "Shutdown signal from D-Amp./short-circuit of speaker terminal" >

Value	Shutdown Factor	Remarks (Operation)
1	A_NG	Shutdown after 5 seconds warning
2	OTW	Shutdown after 5 seconds warning

< No. 10 Subcategory Information on "Abnormally in FAN" >

Value	Shutdown Factor	Remarks (Operation)
1	FAN 1	Immediately Shutdown
2	FAN 2	Immediately Shutdown

< No. 12 Subcategory Information on "Failure in Digital Tuner" >

Value	Shutdown Factor	Remarks (Operation)
1	Starting error of the digital tuner	Communication stop
2	Communication error with the digital tuner	
3	DTB device error	
4	Abnormmally in BCM7038	
5	Fugue	
6	Audio Chip	
7	Tuner 1/Tuner 1 or 2	
8	Card I/F IC	
9	VBI Slicer	
B	Flash	
C	EEPROM	
D	EEPROM	
F	DTV Antenna	
G	Home Gallery	
I	Application	
J	DEMOD(US)/COFDEM(EU)	
K	Tuner 2	
L	S2DEMOD	
M	LNB	

< No. 7 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Communication error of IF microcomputer	Immediately Shutdown
2	Communication error of ARIA	Immediately Shutdown

< No. 8 Subcategory Information on "Failure in IIC communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Tuner 1	Immediately Shutdown
2	MSP/MAP	Immediately Shutdown
3	AV-Switch	Immediately Shutdown
4	RGB-Switch	Immediately Shutdown
5	Main VDEC	Immediately Shutdown
6	VDEC-SDRAM	Immediately Shutdown
7	AD/PLL	Immediately Shutdown
8	HDMI	Immediately Shutdown
9	DisplayPortTx	Immediately Shutdown
B	US-MAP	Immediately Shutdown
C	GCR	Immediately Shutdown
D	COFDEM	Immediately Shutdown

< No. 13 Subcategory Information on "Failure in Power supply at MTB section" >

Value	Shutdown Factor	Remarks (Operation)
1	RST 2	Immediately Shutdown
2	RST 4	Immediately Shutdown

[15] QSI (INPUT SIGNAL DATA)

The command QSI is for acquiring all data on input video signals.

Command Format	Effective Operation Modes	Function	Remarks
[QSI]	Every Time	Output of status	Return data: 3 (ECO) + 66 (DATA) + 2 (CS) = 71 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QSI
1	Type of drive sequence (Note)	4 Byte	60VS
2	Type of ABL adjustment table (Note)	1 Byte	1
3	Type of WB adjustment table (Note)	1 Byte	1
4	Reserved	4 Byte	****
5	Total value of PRH	4 Byte	0256
6	Total value of PGH	4 Byte	0256
7	Total value of PBH	4 Byte	0256
8	Reserved	4 Byte	****
9	Total value of PRL	4 Byte	0512
10	Total value of PGL	4 Byte	0512
11	Total value of PBL	4 Byte	0512
12	Total value of ABL	3 Byte	128
13	V frequency distinction	4 Byte	6002
14	Reserved	4 Byte	****
15	APL acquiring data	4 Byte	1023
16	Number of SUS pulses	4 Byte	0457
17	Detection status of still picture	1 Byte	1
18	Detection status of cracking in the panel	1 Byte	1
19	Detection status of SCAN protection	1 Byte	1
20	Detection status of external protection	1 Byte	1
21	Transition of protection operations	1 Byte	0
22	Address emergency status	1 Byte	1
23	Detection status of reset operation	1 Byte	1
24	In-phase SUS mode status	1 Byte	1
25	Reserved	1 Byte	1
CS	2 Byte	2 Byte	27

18 to 20: Each protection function

0	Setting: OFF
1	Setting: ON (during wait)
2	Setting: ON (during operation)

21: Transition of protection operations

0	Upper limit status for brightness
1	Brightness being reduced
2	Lower limit status for brightness
3	Brightness being increased

22: Address emergency status

0	Normal status
1	Emergency status

23: Reset operation status

A	All reset operation
2	Interlace 1/2 reset operation
4	Interlace 1/4 reset operation
L	Reset less operation (specifications operation)

24: In-phase SUS mode status

0	Normal status
1	In-phase SUS mode status
2	Assist status at the cancellation

Note: The types of drive sequence and ABL/WB table are output as the same data as QPW.

A [16] DRV (PANEL DRIVE-POWER ON/OFF)

Panel drive-power ON/OFF (drive ON/OFF) is controllable.

Command Format	Operation		Remarks
	Effective Operation Modes	Function	
[DRV+S00]	Every time	DRIVE OFF	If a command is issued in Standby mode, and the unit is left unoperated for more than 10 seconds, the command will become void.
[DRV+S01]	Every time	DRIVE ON (default)	

Note: The function of the DRIVE OFF key on the remote control unit for servicing is the same as that of the DRVS00 command.
(A function equivalent to that of the DRVS01 command is not provided for the remote control unit for servicing.)

[17] FAY/FAN (ADJUSTMENT COMMANDS PERMISSION/PROHIBITION)

The commands FAY/FAN are for prohibiting/permitting panel/MTB-adjustment commands.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAY]	Normal operation mode while the power is on	Adjustment command is valid.	For details, refer to the section "6.1 [3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE".
[FAN]	During FAY	Adjustment command is invalid.	

[18] FAJ/UAJ/CBU/BCP (BACKUP FUNCTION FOR ADJUSTMENT VALUE)

When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAJ]	During FAY	To make the status of the EEPROM on the DIGITAL Assy "adjustment completed" and copy the data to the EEPROM for backup	This takes at least 350 msec.
[UAJ]		To make the status of the EEPROM on the DIGITAL Assy "adjustment not completed"	Only the status is changed, and the real data are not erased.
[CBU]		To make the status of the EEPROM on for backup "adjustment not completed"	Only the status is changed, and the real data are not erased. However, if the status of the EEPROM on the DIGITAL Assy is "adjustment completed," the data in the EEPROM of the DIGITAL Assy will be copied to the EEPROM for backup upon POF.
[BCP]		To copy the backup data from the EEPROM for backup to the EEPROM on the DIGITAL Assy	

6. SERVICE FACTORY MODE

6.1 OUTLINE OF THE SERVICE FACTORY MODE

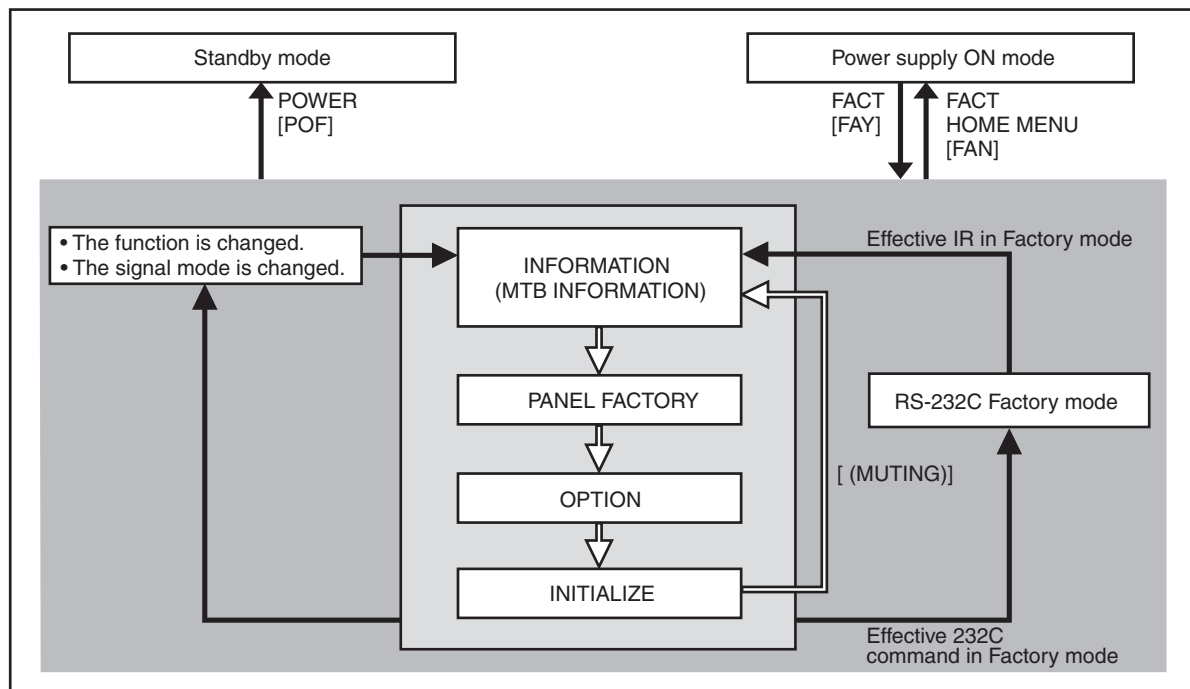
Operations during Service Factory mode are described here.

Before entering Factory mode of the PDP, make sure that the "HD AV Converter" setting on the PDP menu is set to "Disable." If it is set to "Enable," change it to "Disable" then enter Factory mode.

To confirm the "HD AV Converter" setting on the PDP menu, proceed as follows:
Select HOME MENU, Option, then HD AV Converter in HDMI Control Setting.

Note: If "HD AV Converter" is set to "Enable," the video/audio signals will not be displayed/output even if external equipment is connected via input connectors other than INPUT 4 of the PDP.

[1] SERVICE FACTORY MODE TRANSITION CHART



[2] HOW TO ENTER/EXIT SERVICE FACTORY MODE

■ How to enter Service Factory Mode

By using a PDP service remote control)

- PDP service remote control : Press [FACTORY] key.

By issuing RS-232C commands)

- During normal Standby mode : Issue [PON] then [FAY].
- During normal operation mode : Issue [FAY].

■ How to exit Service Factory Mode

By using a PDP service remote control)

- PDP service remote control : press [FACTORY] key.
- Supplied remote control unit : press [HOME MENU] key.

By issuing RS-232C commands)

- Issue [FAN].

■ How to enter Service Factory Mode by Using the supplied Remote Control Unit

- From this model, can not enter the Service Factory Mode by operating the supplied remote control unit keys.

[3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE

■ Functions whose setting are set to OFF

The settings for the following functions are set to OFF when Service Factory mode is entered (including when the "FAY" command is received) :

Function	Remarks
2-Screen Operation	Input function set on the main side is selected.
FREEZE	
Auto size, Side Mask	It is not performed during Factory mode.
ORBITER, Mask control	Central value operation (ORBITER)
Sleep Timer	Cancel the operation.
Room light sensor	Turn off the detecting operation (Setting data will be retained.)
Blue LED dimmer	Turn off the operation (Setting data will be retained.)
Setting of Parental Control	When this is turned off, the block of the screen is released.
Power Control	Turn off the operation (However, the setting maintains it.)
Image Position	Central value operation

Note: Enter the factory after cancelling ACI because the ACI operation setting OFF and not done.

■ User data

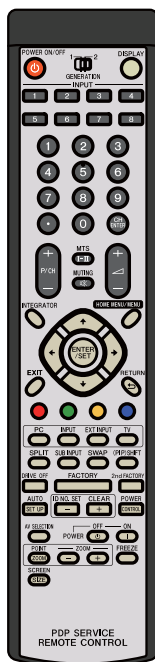
User data will be treated as follows :

- User data on picture-quality and audio-quality adjustments are not reflected, and factory-preset data are output (user data will be retained in memory). When the unit enters Service Factory mode, the current audio-quality adjustment data will be still be retained in memory.
- User-setting data will be applied to the various settings (items on the menus), signal formats, and the items that are associated with path change (HDMI settings, etc.).
- Data on screen (i.e., screen position; meaning clock dividers, and not including data on screen size). Are reset to the default values (data stored in memory will be retained). Screen size will be retained.

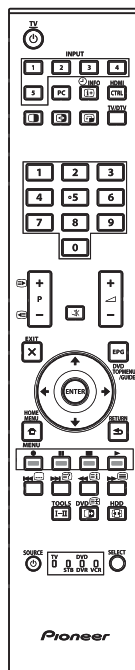
[4] REMOTE CONTROL CODE IN SERVICE FACTORY MODE

Remote Control Keys	Basic Functions	Remarks
MUTING	Switching the main items.	Shifting to the next main item (top).
↓ (DOWN)	Switching the subtitled items.	Shifting downward to the next subtitled item.
↑ (UP)	Switching the subtitled items.	Shifting upward to the next upper layer.
← (LEFT)	Decreasing the adjustment value.	Decreasing the adjustment value.
→ (RIGHT)	Increasing the adjustment value.	Increasing the adjustment value.
ENTER/SET	Switching the layers.	Shifting downward or upward to the next lower or upper layer.
INPUT	Selecting INPUT.	Shifting the INPUT to the next function.
INPUTxx	Selecting INPUT.	Switching the INPUT to xx. (xx=1 to 7 etc)
CH+/P+	Increasing the channel number.	
CH-/P-	Decreasing the channel number.	
Numeric Keys	Function: TV	Function: TV (previously selected channel number is selected)
POWER	Power OFF.	Turning the power off.
FACTORY	Factory OFF (Factory mode)	In Factory mode, turning Factory mode off.
	Factory ON (Non-Factory mode).	In Non-Factory mode, turn Factory mode on.
HOME MENU	Menu ON.	In Factory mode, turn Factory mode off.
VOLUME+	Volume UP.	Increasing 10 the adjustment value. (PANEL FACTORY)
VOLUME-	Volume DOWN.	Decreasing 10 the adjustment value. (PANEL FACTORY)
DRIVE OFF (Note1)	Drive Mode OFF.	Turning Drive mode off.
INTEGRATOR	INTEGRATOR MENU ON.	Enter INTEGRATOR MODE.

(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid.
Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.



PDP service
remote control



Supplied
remote control

A [5] PDP SERVICE REMOTE CONTROL

- The keys labeled with the same names on the service remote control unit have the same functions as those of the supplied remote control unit. (See "2.3 PANEL FACILITIES.")
- For the keys not provided on the supplied remote control unit, see the explanations below:

B

C

D

E

F

INTEGRATOR

Press this key to enter Integrator mode.

SUB INPUT

Not used with this model.

DRIVE OFF

Press this key to turn off the panel drive.
For details on how to cancel this command, see the explanation for the DRV command.

AUTO SETUP

Use this key for automatic setup, such as the display position setting when an analog PC signal is input.

ID NO. SET

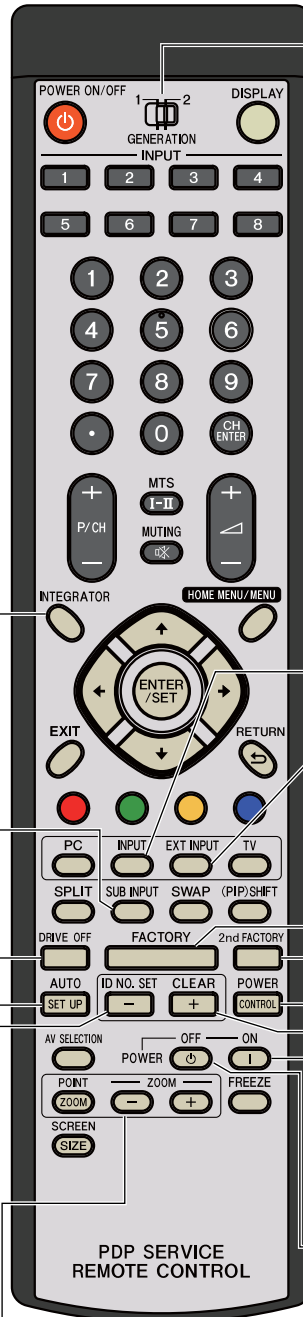
Not used with this model.

POINT ZOOM

Not used with this model.

ZOOM +/-

Not used with this model.



GENERATION switch for remote control codes

This switch selects the generation of remote control codes to be transmitted:

- 1: The old-generation codes are transmitted.
 - 2: The new-generation codes are transmitted.
- With this generation plasma display, set the switch to 2.

INPUT

Press this key to cyclically change the input source.

EXT INPUT

Press this key to cyclically change only the external input source.

FACTORY

Press this key to enter Factory mode.

2nd FACTORY

Not used with this model.

POWER CONTROL

Not used with this model.

CLEAR

Not used with this model.

POWER ON

Press this key to turn on the unit.
This key cannot turn the unit off.

POWER OFF

Press this key to turn off the unit.
This key cannot turn the unit on.

[6] FACTORY HIERARCHICAL TABLE

Large Item			Variable / Adjustment Range	Remarks
	Middle Item			
		Small Item		
6.2 [1] INFORMATION				
	[1-1] VERSION (1)			
	[1-2] VERSION (2)			
	[1-3] MAIN NG	CLEAR <=>	NO <=> YES	
	[1-4] TEMPERATURE			
	[1-5] HOUR METER	CLEAR <=>	NO <=> YES	
	[1-6] HDMI SIGNAL INFO 1			
	[1-7] HDMI SIGNAL INFO 2			
	[1-8] VDEC SIGNAL INFO 1			
	[1-9] VDEC SIGNAL INFO 2			
6.2 [2] PANEL FACTORY (+)				
	[2-1] PANEL INFORMATION			
	[2-2] PANEL WORKS			
	[2-3] POWER DOWN			
	[2-4] SHUT DOWN			
	[2-5] PANEL-1 ADJ (+)	VOL SUS <=>	000 to 255	
		VOL OFFSET <=>	000 to 255	
		VOL RST P <=>	000 to 255	
		VOL XPOFS1 <=>	000 to 255	
		VOL XPOFS2 <=>	000 to 255	
		VOL YKNOFS1 D <=>	000 to 255	
		VOL YKNOFS3 D <=>	000 to 255	
		VOL YKNOFS4 D <=>	000 to 255	
		VOL YKNOFSA D <=>	000 to 255	
		RESET1ST_KSB <=>	112 to 144	
		RESET2ND_KSB <=>	112 to 144	
		YSTL_1SF_KSB <=>	112 to 144	
		YSTL_1SF_HZ <=>	112 to 144	
		XSUS_1ST_B <=>	112 to 144	
		YSUS_2ND_B <=>	112 to 144	
		XSUS_3RD_B <=>	112 to 144	
		YSUS_B <=>	112 to 144	
		XSUS_B <=>	112 to 144	
		YSTL_KSB <=>	112 to 144	
		YSTL_HZ <=>	112 to 144	
		YSTL_2SF_KSB <=>	112 to 144	
		YSTL_2SF_HZ <=>	112 to 144	
		YSTL_FMR_KSB <=>	112 to 144	
		SCAN ADRS ADJ <=>	112 to 144	
		SUS FREQ <=>	<=> MODE 1 to MODE 8 <=>	
	[2-6] PANEL-2 ADJ (+)	R-HIGH <=>	000 to 999	
		G-HIGH <=>	000 to 999	
		B-HIGH <=>	000 to 999	
		R-LOW <=>	000 to 999	
		G-LOW <=>	000 to 999	
		B-LOW <=>	000 to 999	
		ABL <=>	000 to 255	
	[2-7] PANEL FUNCTION (+)	R-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		G-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		B-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		ADDRESS L1 <=>	<=> PH0 to PH9 <=>	
		ADDRESS L2 <=>	<=> PH0 to PH9 <=>	
		ADDRESS L3 <=>	<=> PH0 to PH9<=>	
		ADDRESS L4 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U1 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U2 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U3 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U4 <=>	<=> PH0 to PH9<=>	
		STK MODE <=>	OFF <=> MODE1 to MODE8 <=>	
		FULL BLACK <=>	MODE1 <=> OFF	
		PANEL RX <=>	000 to 999	
		PANEL RY <=>	000 to 999	
		PANEL GX <=>	000 to 999	
		PANEL GY <=>	000 to 999	
		PANEL BX <=>	000 to 999	
		PANEL BY <=>	000 to 999	
		CLS R <=>	000 to 255	
		CLS G <=>	000 to 255	
		CLS B <=>	000 to 255	

A

B

C

D

E

F

Large Item			Variable / Adjustment Range	Remarks
	Middle Item	Small Item		
6.2 [2] PANEL FACTORY (+)				
	[2-8] ETC. (+)	BACKUP DATA <=>	NO OPRT <=> TRANSFER/ERR	
		DIGITAL EEPROM <=>	NO OPRT <=> DELETE/REPAIR	
		PD INFO. <=>	NO OPRT <=> CLEAR	
		SD INFO. <=>	NO OPRT <=> CLEAR	
		HR-MTR INFO. <=>	NO OPRT <=> CLEAR	
		PM/B1-B5 <=>	NO OPRT <=> CLEAR	
		P COUNT INFO. <=>	NO OPRT <=> CLEAR	
		MAX TEMP. <=>	NO OPRT <=> CLEAR	
		MIRROR <=>	OFF <=> MODE1 to MODE3 <=>	
		CLS <=>	OFF <=> ON	
	[2-9] RASTER MASK SETUP (+)	MASK OFF		
		RST MASK 01 <=>	<=> 50V <=> 60V <=> 60P	
		• • •	<=> 72V <=> 75V1 <=> 75V2 <=>	
		RST MASK 25 <=>		
	[2-10] PATTERN MASK SETUP (+)	MASK OFF		
		PTN MASK 01 <=>	<=> 50V <=> 60V <=> 60P	
		• • •	<=> 72V <=> 75V1 <=> 75V2 <=>	
		PTN MASK 49 <=>		
	[2-11] COMBI MASK SETUP (+)	MASK OFF		
		CMB MASK 01 <=>	<=> 50V <=> 60V <=> 60P	
		• • •	<=> 72V <=> 75V1 <=> 75V2 <=>	
		CMB MASK 17 <=>		
6.2 [3] OPTION				
	[3-1] CH PRESET <=>		DISABLE <=> ENABLE	Exclusively used for production line
	[3-2] Digital AFT <=>		DISABLE <=> ENABLE	Exclusively used for production line (*1)
	[3-3] SYNC DET (+)			for the technical analysis
	[3-4] CTI (+)			for the technical analysis
6.2 [4] INITIALIZE				
	[4-1] SIDE MASK LEVEL (+)	SIDE MASK LEVEL <=>		
	[4-2] FINAL SETUP (+)	DATA RESET <=>	NO <=> YES	
	[4-3] DTB SERVICE MODE (+)	MODE SHIFT <=>	NO <=> YES	for the technical analysis (*1, *2)
	[4-4] Wide XGA AUTO <=>		DISABLE <=> ENABLE	for the technical analysis
	[4-5] AUTO ADJUSTMENT (+)	AUTO ADJUST. <=>	NO <=> YES	

(*1): PDP-LX5090H only

(*2): Exit the Service Factory Menu and enter the Digital Tuner Service menu.

[7] INDICATIONS IN SERVICE FACTORY MODE

	1	5	10	15	20	25	30	35	40																																
1		INFORMATION										AV1-10501-PLV-EHB																													
		VERSION(1)																																							
5		I / F										- 07A										01A										Main-items									
		MAIN										- 02EH 1										= 01E																			
		MULTI AGC										1 078 _ A																				Subtitled-items									
		PRS										- 02A										01A																			
		PIC										- 02A																													
10		DTUNER										- 02E										01E																			
		MODULE										- 06A										01A																			
		SEQ PRS										- 03Y										01A																			
15		PANEL INFO										XXXXXXXXXX																													
16																																									

Main-item indications

	20	25	30	35	40
	AV1-10501-PLV-EHB				

① ② ③ ④

① Input function

Input Functions	OSD
AV 1 to 5	AV 1 to 5
Terrestrial Wave (Analog)	AIR
Terrestrial Wave (Digital)	ARD
Satellite digital broadcasting (PDP-LX5090H only)	SAT
Cable (Digital)	CBD
Home Media Gallery	HMG
PC	PC

② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

③ Color system and Signal type

Color System and Signal Type	OSD	
	At Composite Input	At S-connector Input
NTSC	NTV	NTS
PAL	PLV	PLS
PAL M	PMV	PMS
PAL N	PNV	PNS
PAL 60	P6V	P6S
SECAM	SCV	SCS
4.43 NTSC	4NV	4NS
BLACK/WHITE	BWV	BWS
Y/CB/CR	CBR	
Y/PB/PR	PBR	
RGB	RGB	
Digital Video signal	DIG	

④ Option (Destination, Panel Generation, etc.)

Options	OSD
PDP-LX5090/6090H	EHB
PDP-LX5090/6090D	ETB

② SIG Mode and Screen size (by User is displayed)

1st and 2nd characters : Resolution of the input signal

3rd and 4th characters : Refresh rate of the input signal

5th character : Selection of the screen size

■ Input signal mode table for video signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
10	50	SDTV*625i	50.000	15.750
	60	SDTV*525i	60.000	15.750
20	50	SDTV*625p	50.000	31.500
	60	SDTV*525p	60.000	31.500
30	50	HDTV*1125i	50.000	33.750
	60	HDTV*1125i	60.000	33.750
40	50	HDTV*750p	50.000	45.000
	60	HDTV*750p	60.000	45.000
50	24	HDTV*1125p	24.000	27.000
	50	HDTV*1125p	50.000	56.250
	60	HDTV*1125p	60.000	67.500

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Input signal mode table for PC signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
C1	70	720 x 400	70.087	31.469
C2	60	640 x 480	59.940	31.469
C4	60	800 x 600	60.317	37.879
C6	60	1280 x 720	60.000	44.800
C7	60	1024 x 768	60.004	48.363
C9	60	1360 x 768	60.015	47.712
D6	60	1280 x 1024	60.000	64.000

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Current selection of the screen size

5th Character	GUI Notation	VIDEO	PC	Remarks
0	DOT BY DOT	●	—	
1	4:3	●	●	
2	FULL	●	●	
3	ZOOM	●	—	
4	CINEMA	●	—	
5	WIDE	●	—	
6	FULL 14:9	●	—	
7	CINEMA 14:9	●	—	
9	WIDE1	●	—	
A	WIDE2	●	—	

●: supported, —: unsupported

6.2 DETAILS OF FACTORY MENU

[1] INFORMATION

■ Operation items

No.	Function	Content	RS-232C Command
[1-1]	VERSION (1)	The Flash memory versions for each device are displayed.	QS1
[1-2]	VERSION (2)	The Flash memory versions for each device are displayed.	QSE
[1-3]	MAIN NG	The Shutdown NG information and Event Times in the MTB section are displayed.	QNG
[1-4]	TEMPERATURE	The present temperature and the FAN rotating status are displayed.	—
[1-5]	HOUR METER	The accumulation power ON count of the panel is displayed.	—
[1-6]	HDMI SIGNAL INFO 1	The status registers of HDMI receiver are displayed with hexadecimal.	—
[1-7]	HDMI SIGNAL INFO 2		
[1-8]	VDEC SIGNAL INFO 1	Display the signal information input to VDEC.	—
[1-9]	VDEC SIGNAL INFO 2		

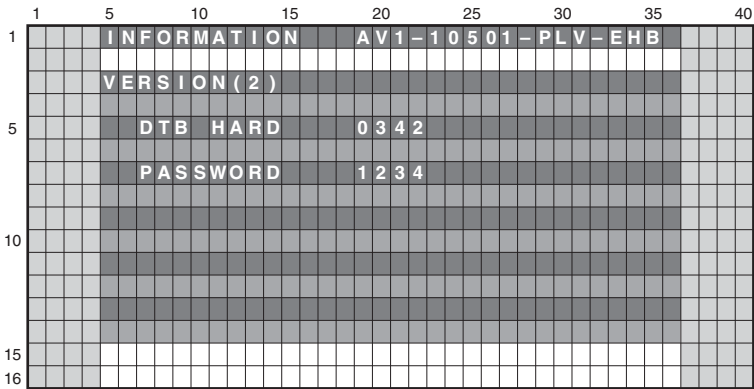
[1-1] VERSION (1)

1	5	10	15	20	25	30	35	40
1								
5								
10								
15								
16								

Display Item	Meaning	Display Example (Program)	Display Example (Boot)
I/F	I/F microcomputer	-07A	01A
MAIN	Main microcomputer	-02EH_1	=01E
MULTI AGC	AGC data of Multi processor	1078-A	
MULTI PRS	Program of Multi processor	-02A	01A
MULTI PIC	Picture quality data of Multi processor	-02A	
DTUNER (*1)	Software program of the Digital tuner	-02E	01E
MODULE	Module microcomputer	-06A	01A
SEQ PRS	Program of Sequence processor	-03Y	01A
Display Item	Meaning		
PANEL INFO	It displays the generation of the panel, inchage and the type of the panel. For details on display values and settings, see "10: Panel Information" in "5.9 [1] QS1 (PANEL STATUS)."		

(*1): PDP-LX5090H only

A [1-2] VERSION (2)



B

Display Item	Meaning	Display Example
DTB HARD	DTB Hardware Version	0342
PASSWORD	User setting password	1234

C

D

E

F

[1-3] MAIN NG

	1		5		10		15		20		25		30		35		40
1																	

MTB side's Shutdown NG information

Error Display: MAIN	Error Display: SUB	Cause of Shutdown
AUDIO		Short-circuit of the speaker terminal or failure of audio amplifier.
	AUDIO	Short-circuit of the speaker terminal or failure signal of audio amplifier (MAIN) (PDP-LX5090H only)
	OTW	Short-circuit of the speaker terminal or failure signal of audio amplifier (IF) (PDP-LX5090H only)
MODULE	----	Serial communication error of Module microcomputer.
MA-3L		3-wire Serial Communication error of Main microcomputer.
	IF	Communication error of IF microcomputer
	MULTI	Main communication error of Multi Processor
MA-IIC		IIC Communication error of Main microcomputer
	FE1	Tuner 1
	MSPMAP	MSP/MAP
	AV-SW	AV Switch
	RGB-SW	RGB Switch
	VDEC	Main VDEC
	SDRAM	VDEC - SDRAM
	ADC	AD/PLL
	HDMI	HDMI
	DEMOD	COFDEM (PDP-LX5090 only)
MAIN	----	Communication error of Main microcomputer
FAN		FAN abnormal
	FAN2	FAN2 abnormal stop
TEMP2	----	Abnormally high temperature
DTUNER		Failure in Digital Tuner
	PS/RST	DTB Starting error
	RETRY	Communication error with DTB (PDP-LX5090H only)
	DEVICE	DTB device error (PDP-LX5090H only)
	DE-FE	DTB device error (Tuner 1) (PDP-LX5090H only)
	D-ANT	Abnormally in DTB antenna
	DTVAPP	DTB device error (Application) (PDP-LX5090H only)
	DEMOD	DTB device error (COFDEM) (PDP-LX5090H only)
	DE-FES	DTB device error (Tuner S2) (PDP-LX5090H only)
	DEMONS	DTB device error (S2DEMOD) (PDP-LX5090H only)
	DE-LNB	DTB device error (LNB) (PDP-LX5090H only)
RST-MA		Abnormally in MTB power
	M-DCDC	Abnormally in ASIC power (DC-DC)
	RELAY	Power decrease of RELAY power
MA-EEP	----	Main EEPROM communication error

[1-4] TEMPERATURE

A present temperature and the FAN rotation are displayed.

If either [←] key or [→] key is pressed, the display data is refreshed.

	1			5				10				15				20				25				30				35				40		
1				INFORMATION												AV1-10501-PLV-EHB																		
				TEMPERATURE																														
				TEMP1										:		+40.2 (C)																		
5				TEMP2										:		+40.2 (C) 1023 (A/D)																		
				FAN1										:		LOW																		
				FAN2										:		128 (D/A)																		
10				B-SENSOR										:		1023 (A/D)																		
15																																		
16																																		

Display Item	Meaning
TEMP1	The temperature of the sensor on the panel side is displayed by the Centigrade (C).
TEMP2	The temperature conversion display is done with 10 bit the A/D input value of IF microcomputer. It is displayed by both the Centigrade (C) and 8 bit A/D value. Note: When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.
FAN1	The value of the FAN rotating state is displayed. STOP: stopped, LOW: slow speed, HIGH: high speed.
FAN2	The value of the rotation state of FAN is displayed. During a rotation of FAN, 8bit D/A value output from IF microcomputer is displayed. It is displayed with OFF during a stop.
B-SENSOR	The value that indicated the degree of brightness input into an Room light sensor is displayed. AD value when the output of the Room light sensor was input into IF microcomputer is displayed.

A [1-5] HOUR METER

1	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

B

Display Item	Meaning	Display Example
PANEL	HOURL METER of the panel	00151H 21M
P-COUNT	Accumulation power ON count of the panel	00000095 TIMES
SERIAL	Serial number of the product	ABCDEFGHIJKLMNO

C

• MTB HOUR METER

In HOUR METER screen on Factory Menu, press the [ENTER/SET] key, and then it moves to the screen to clear MTB HOUR METER. (MTB HOUR METER is cleared only.)

D

1	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

E

Operation:

- Even if [←] key or [→] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
- Selecting <NO> then pressing the ENTER/SET key will return the screen to the next higher layer, without doing anything.
- Selecting <YES> then holding the ENTER/SET key pressed for 5 seconds will clear the HOUR METER (HOUR METER while the MAIN NG screen is displayed) data that are managed in MTB then return the screen to the next higher layer.

F

[1-6] HDMI SIGNAL INFO 1

	1	5	10	15	20	25	30	35	40							
1			INFORMATION							AV1-30601-DIG-EHB						
			HDMI SIGNAL INFO 1													
5			PWR5V:ACTIVE							MODE:HDMI						
			VSYNC:ACTIVE							BIST:--						
			CKDT:ACTIVE							NVAL:0006144						
			SCDT:ACTIVE							CTSVAL:0074250						
			DCRPT:ACTIVE							AKSV:B70361F714						
10			AUTH:ACTIVE							BKSV:511EF21ACD						
										ITCNT:NO						
										EXTCOL:xvYCC709						
										RGB QR:DEFAULT						
										PIXDEP:12bit						
15																
16																

Displays the input signal information of HDMI terminal

Display Item	Meaning
PWR5V	+5 V power detection (18 pin of HDMI terminal)
VSYNC	VSYNC detection
CKDT	Clock detection
SCDT	SYNC detection
DCRPT	HDCP decryption status
AUTHEN	HDCP authentication status
MODE	HDMI mode status
BIST	HDCP Key status (Always display it with "--".)
NVAL	N value
CTSVAL	CTS value
AKSV	Shadow AKSV value
BKSV	Shadow BKSV value
ITCNT	IT content (AVI info)
EXTCOL	Extension calorimetry (AVI info)
RGV QR	RGB range (AVI info)
PIXDEP	Number of pixel/bit

A [1-7] HDMI SIGNAL INFO 2

1	5	10	15	20	25	30	35	40
1								
5								
10								
15								
16								

Displays input signal status of HDMI terminal

Display Item	Meaning
H RES	Number of horizontal pixels
V RES	Number of vertical lines
H DE	Number of effectively horizontal pixels
V DE	Number of effectively vertical lines
INTRL	Interlace (=INT) or progressive (=PRG)
V POL	VSYNC polarity
H POL	HSYNC polarity
AUDIO (first line)	Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1
AUDIO (second line)	Audio format PCM (PCM) or No PCM (no PCM)
AUDIO (third line)	Quantization bit
COL SP	Color space (AVI Info) 422 or 444 or RGB *2
COLMET	Calorimetry (AVI Info)
ASPECT	Aspect (AVI Info)
ACTIVE	Active format (AVI Info)
V FMT	Video format (AVI Info)
PIX RP	Pixel count
SOURCE (first line)	Vendor name of the emission device
SOURCE (second line)	Model name of the emission device

*1: Confirm if this item is displayed when the audio is not outputted.

*2: If may not match to the state of source devices when the color is abnormal.

Display of HDMI FACTORY and correspondence of resolution

Please confirm the following items when the picture doesn't come out.

Input Signal	FACTORY Display				
	H RES	V RES	H DE	V DE	V FMT
480i (525i)@60	858	262 or 263	720	240	720x480i@60
480p (525p)@60	858	525	720	480	720x480p@60
1080i (1125i)@60	2200	562 or 563	1920	540	1920x1080i@60
720p (750p)@60	1650	750	1280	720	1280x720p@60
1080p (1125p)@60	2200	1125	1920	1080	1920x1080p@60
1080p (1125p)@24	2750	1125	1920	1080	1920x1080p@24
576i (625i)@50	864	312 or 313	720	288	720x576i@50
576p (625p)@50	864	625	720	576	720x576p@50
1080i (1125i)@50	2640	562 or 563	1920	540	1920x1080i@50
720p (750p)@50	1980	750	1280	720	1280x720p@50
1080p (1125p)@50	2640	1125	1920	1080	1920x1080p@50

[1-8] VDEC SIGNAL INFO 1

1	5	10	15	20	25	30	35	40												
1	INFORMATION										AV1-10501-PLV-EHB									
	VDEC SIGNAL INFO 1																			
5	MVDEC -000:00										SVDEC -400:00									
	-001:00										-401:00									
	-094:00										-494:00									
	-095:00										-495:00									
	-096:00										-496:00									
10	-098:00										-----									
	-1B5:00										-5B5:00									
	-1B6:00										-5B6:00									
	-1B7:00										-5B7:00									
15																				
16																				

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	000h	400h	Line system distinction result
	001h	401h	VTR distinction result
	094h	494h	Slot number
	095h	495h	Color system distinction result
	096h	496h	ACC coefficient
	098h	---	3D YC flag
	1B5h	5B5h	MV detection 1
	1B6h	5B6h	MV detection 2
	1B7h	5B7h	MV detection 3

[1-9] VDEC SIGNAL INFO 2

1	5	10	15	20	25	30	35	40												
1	INFORMATION										AV1-10501-PLV-EHB									
	VDEC SIGNAL INFO 2																			
5	MVDEC -205:00										SVDEC -605:00									
	-208:00										-608:00									
	-20B:00										-60B:00									
	-20C:00										-60C:00									
	-20D:00										-60D:00									
10																				
15																				
16																				

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	205h	605h	CC detection 1
	208h	608h	CC detection 2
	20Bh	60Bh	CC-CRI detection
	20Ch	60Ch	XDS content advisory 0
	20Dh	60Dh	XDS content advisory 1

[2] PANEL FACTORY (+)

■ Operation Items

This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

No.	Indication	Description of functions
[2-1]	PANEL INFORMATION	Data, such as the version of the microcomputer of the panel, product serial number, and statuses of EEPROM for adjustment values for the main unit and for backup, are displayed.
[2-2]	PANEL WORKS	Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed.
[2-3]	POWER DOWN	The power-down history is displayed.
[2-4]	SHUT DOWN	The shutdown history of the panel section is displayed.
[2-5]	PANEL-1 ADJ (+)	Settings of the driving voltage and AM radio prevention can be performed.
[2-6]	PANEL-2 ADJ (+)	White balance and ABL (power consumption) for the panel can be set.
[2-7]	PANEL FUNCTION (+)	Setting of the panel-degradation correction-level and various functions are displayed.
[2-8]	ETC. (+)	Copying of backup data, clearing of various settings, and changing of settings for functions for which setting data are not stored upon last update are performed.
[2-9]	RASTER MASK SETUP (+)	The mask indication (RASTER) can be set and indicated.
[2-10]	PATTERN MASK SETUP (+)	The mask indication (PATTERN) can be set and indicated.
[2-11]	COMBI MASK SETUP (+)	The mask indication (COMBI) can be set and indicated.

■ Details of indications in each layer

[2-1] PANEL INFORMATION

- Data, such as the version of the microcomputer of the panel, product serial number, and statuses of digital EEPROM for storing the adjustment values and for backup EEPROM, are displayed. No other layers are nested below this layer, and there are no adjustment items.

		1	5	10	15	20	25	30	32
1				PANEL	FACT.			IN1-30602-RGB-JHB	
	AREA1			PANEL	INFORMATION				
2				MODULE	-01A			01A	
3				-PRG	-01A				
4				-DAT	-01A				
5				SEQ PRS	-01Y			02A	
6				-PRQ	-01Y				
7				-PIC	-01Y				
8				-SEQ	520Y				
9									
A				SERIAL					
B				DIG.EEP	ADJUSTED				
C				BACKUP	NO DATA!				
D									
E									

■ Key operation

- <DOWN> : Shifting to PANEL WORKS
- <UP> : Shifting to COMBI MASK SETUP (+)
- <L/R> : Updating displayed information

■ Contents of the Display item

- MODULE : The version of data written in the Module microcomputer is indicated.
- PRG : The program version of the Module microcomputer is indicated.
- DAT : The data version of the Module microcomputer is indicated.
- SEQ PRS : The version of data written in the Sequence LSI is indicated.
- PRG : The program version of the Sequence LSI is indicated.
- PIC : The Picture-data version of the Sequence LSI is indicated.
- SEQ : The sequence-data version of the Sequence LSI is indicated.
- SERIAL : The serial number of the module is indicated.
- DIG.EEP : The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
- BACKUP : The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

[2-2] PANEL WORKS

- Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are displayed. No other layers are nested below this layer, and there are no adjustment items.

		1	5	10	15	20	25	30	32
1				PANEL	FACT.			IN1-30602-RGB-JHB	
	AREA1			PANEL	WORKS				
2									
3				PM-B1	00000715	M			
4				PM-B2	00000607	M			
5				PM-B3	00000852	M			
6				PM-B4	00000668	M			
7				PM-B5	00000733	M			
8									
9				HR-MTR	000025H	20M			
A				P-COUNT	00000095	TIMES			
B				TEMP1	+27.4 / +70.8				
C				CLS-RGB	2000 / 0325 / 1223	-OK			
D									
E									

■ Key operation

- <DOWN> : Shifting to POWER DOWN
- <UP> : Shifting to PANEL INFORMATION
- <L/R> : Updating displayed information

← Temperature unit is " °C (Centigrade) ".

■ Contents of the Display item

- PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
- HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
- P-COUNT: The accumulated power-on count is indicated.
- TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated. The range of temperature indication is from -50.0 to +99.9. (The temperature unit is " °C (Centigrade) ".)
- CLS-RGB: Data obtained from the color sensor are displayed in the order R, G, and B, with the status indication at the end.

CLS Status	OSD Indication
Function OFF	-OFF
Color sensor module non connection	-NC
Data abnormality	-INV
Data normal	-OK

Note:

Turning ON the functions of the color sensor can be performed in the ETC(+) layer.

A [2-3] POWER DOWN

- The power-down history is displayed. No other layers are nested below this layer.

		1	5	10	15	20	25	30	32	
1		PANEL	FACT.			IN1-30602-RGB-JHB				
	AREA1	POWER	DOWN							
	2	1ST		2ND		000124H	23M			
5	3									
	4	1	X-DCCC	-----		000124H	21M			
	5	2	Y-SUS	SCAN		000115H	05M			
	6	3	SCAN	-----		000107H	53M			
	7	4	POWER	SCAN		000098H	47M			
10	8	5	ADRS	-----		000051H	30M			
	9	6	SCN5V	X-DCDC		000022H	21M			
	A	7	Y-DCDC	-----		000000H	57M			
	B	8					H	M		
	C									
15	D									
16	E									

■ Key operation

- <DOWN> : Shifting to SHUT DOWN
- <UP> : Shifting to PANEL WORKS
- <L/R> : Updating displayed information

■ Contents of the Display item

- The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred.
- When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.
- The power-down history is not recorded when the power-down occurred at the same place and same time.

<Causes of power-down and corresponding OSD indications>

Cause of power-down	OSD Indication	Cause of power-down	OSD Indication
POWER SUPPLY Unit	P-PWR	ADDRESS Assy	ADRS
SCAN Assy	SCAN	DC/DC converter for X drive	X-DCDC
5 V power for SCAN	SCN5V	X-SUS	X-SUS
DC/DC converter for Y drive	Y-DCDC	DIG-DCDC	D-DCDC
Y-SUS	Y-SUS	Unknown	UNKNOW

[2-4] SHUT DOWN

- The shutdown history of panel section is displayed. No other layers are nested below this layer, and there are no adjustment items.

		1	5	10	15	20	25	30	32	
1		PANEL	FACT.			IN1-30602-RGB-JHB				
	AREA1	SHUT	DOWN							
5	2	MAIN		SUB		000124H	23M			
	3									
	4	1	TMP-NG	TMP-H		000124H	21M			
	5	2	SQ-LSI	RTRY		000115H	05M			
	6	3	MD-DEV	DAC		000107H	53M			
	7	4	SQ-LSI	VER-HS		000098H	47M			
10	8	5	MD-DEV	BACKUP		000051H	30M			
	9	6	SQ-LSI	BUSY		000012H	07M			
	A	7					H	M		
	B	8								
	C									
	D									
15										
16	E									

■ Key operation

- <DOWN> : Shifting to PANEL-1 ADJ (+)
- <UP> : Shifting to POWER DOWN
- <L/R> : Updating displayed information

■ Contents of the Display item

- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred.
- When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.
- The shutdown history is not recorded when the shutdown occurred at the same place and same time.

<Cause of shutdown and corresponding OSD Indication >

Cause of shutdown (MAIN)		Cause of shutdown (SUB)	
Main cause	OSD Indication	Sub cause	OSD Indication
SQ_LSI	SQ_LSI	Communication Error	RTRY
		Drive Stop	SQNO
		Busy	BUSY
		Version mismatching (H/S)	VER-HS
		Version mismatching (H/M)	VER-HM
		Version mismatching (H/I)	VER-HI
MDU-DEVICE	MD-DEV	Digital EEPROM	EEPROM
		Backup EEPROM	BACKUP
		DAC IC	DAC
Abnormally in RST2 power supply	RST2	—	—
Abnormally in panel temperature	TMP-NG	High temperature of the panel	TMP-H
		Low temperature of the panel	TMP-L

<Next nested layer of PANEL-1 ADJ (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C Command	Remarks
1	Vsus voltage	VOL SUS <=>	000 to 255	Factory adjustment value	VSU	
2	Vysnfs voltage	VOL OFFSET <=>			VOF	
3	Vyprst voltage	VOL RST P <=>			VRP	
4	Vxpofs1 voltage	VOL XPOFS1 <=>			VX1	
5	Vxpofs2 voltage	VOL XPOFS2 <=>			VX2	
6	Vyknofs1,2 voltage	VOL YKNOFS1 D <=>			V1F	
7	Vyknofs3 voltage	VOL YKNOFS3 D <=>			V3F	
8	Vyknofs4 voltage	VOL YKNOFS4 D <=>			V4F	
9	Δ Vyknofs1,2/3/4	VOL YKNOFSA D <=>			VYF	
10	First reset (wedge width)	RESET1ST_KSB <=>	112 to 144	128	R1K	Factory use item
11	Second reset (wedge width)	RESET2ND_KSB <=>			R2K	
12	1SF - Y sus tail (wedge width)	YSTL_1SF_KSB <=>			Y1K	
13	1SF - Y sus tail (resonance down width)	YSTL_1SF_HZ <=>			Y1Z	
14	3SF and later - first X sus (resonance up width)	XSUS_1ST_B <=>			X1B	
15	2SF - second Y sus (resonance up width)	YSUS_2ND_B <=>			Y2B	
16	2SF - third X sus (resonance up width)	XSUS_3RD_B <=>			X3B	
17	2SF - repeat Y sus (resonance up width)	YSUS_B <=>			YSB	
18	2SF - repeat X sus (resonance up width)	XSUS_B <=>			XSB	
19	3SF and later - Y sus tail (wedge width)	YSTL_KSB <=>			YTK	
20	3SF and later - Y sus tail (resonance down width)	YSTL_HZ <=>			YTZ	
21	2SF - Y sus tail (wedge width)	YSTL_2SF_KSB <=>			Y2K	
22	2SF - Y sus tail (resonance down width)	YSTL_2SF_HZ <=>			Y2Z	
23	3SF and later (2 pulses of SSF) - Y sus tail (wedge width)	YSTL_FMR_KSB <=>			YNK	
24	Timing between Scan and Address	SCAN ADRS ADJ <=>			SAT	
25	SUS frequency (AM radio anti-jamming)	SUS FREQ <=>	MODE1 to 8	MODE1	SFR	Note

Note: It is necessary to turn OFF and ON the power for reflecting the setting change.

F

- B

C

D

E

F

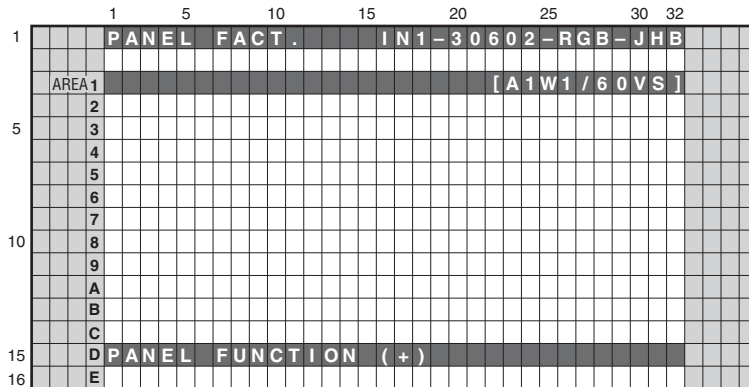


E

F

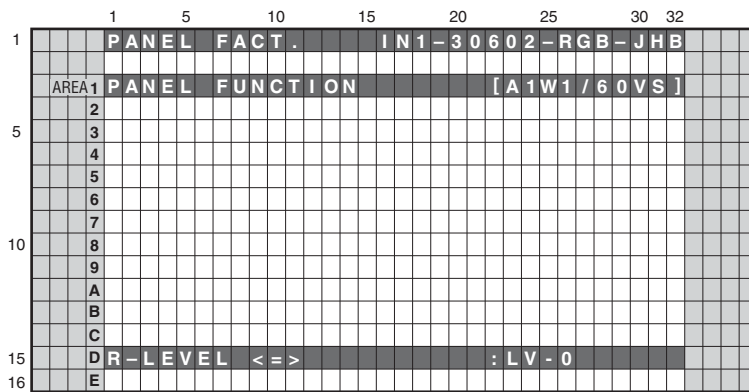
[2-7] PANEL FUNCTION (+)

- A level setting for panel degradation correction can be made. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

- <DOWN> : Shifting to ETC.(+)
- <UP> : Shifting to PANEL-2 ADJ (+)
- <SET> : Shifting to the next nested layer



■ Key operation

- <DOWN> : Shifting to the next item
- <UP> : Shifting to the previous item
- <RIGHT> : Adding by one to the adjustment/setting value
- <LEFT> : Subtracting by one from the adjustment/setting value
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

<Next nested layer of PANEL FUNCTION (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C COMMAND	Remarks
1	R deterioration correction LEVEL	R-LEVEL <=>	Lv-10 to 7	Lv-3	RRL	Factory use item (Note)
2	G deterioration correction LEVEL	G-LEVEL <=>		Lv-2	RGL	
3	B deterioration correction LEVEL	B-LEVEL <=>		Lv-0	RBL	
4	L1 address	ADDRESS L1 <=>	PH0 to 9	PH1	AP0	
5	L2 address	ADDRESS L2 <=>		PH3	AP0	
6	L3 address	ADDRESS L3 <=>		PH1	AP1	
7	L4 address	ADDRESS L4 <=>		PH3	AP1	
8	U1 address	ADDRESS U1 <=>		PH1	AP2	
9	U2 address	ADDRESS U2 <=>		PH3	AP2	
10	U3 address	ADDRESS U3 <=>		PH1	AP3	
11	U4 address	ADDRESS U4 <=>		PH3	AP3	
12	Streaking correction	STK MODE <=>	OFF to MODE1 to 8	MODE1	SKM	Factory use item
13	Black display mode	FULL BLACK <=>	OFF to MODE1	MODE1	FBM	
14	Panel Rx characteristic	PANEL RX <=>	000 to 999	Factory adjustment value	PRX	
15	Panel Ry characteristic	PANEL RY <=>	000 to 999		PRY	
16	Panel Gx characteristic	PANEL GX <=>	000 to 999		PGX	
17	Panel Gy characteristic	PANEL GY <=>	000 to 999		PGY	
18	Panel Bx characteristic	PANEL BX <=>	000 to 999		PBX	
19	Panel By characteristic	PANEL BY <=>	000 to 999		PBY	
20	Color sensor R coefficient	CLS R <=>	000 to 255	128	CSR	
21	Color sensor G coefficient	CLS G <=>	000 to 255	128	CSG	
22	Color sensor B coefficient	CLS B <=>	000 to 255	128	CSB	

Note: It is necessary to turn OFF and ON the power for reflecting the setting change.

A [2-8] ETC. (+)

- Clearance of various log data for the panel and changing of settings for which setting data were not stored upon last update can be performed.

Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

■ Key operation

- <DOWN> : Shifting to RASTER MASK SETUP (+)
 <UP> : Shifting to PANEL FUNCTION (+)
 <SET> : Shifting to the next nested layer

■ Key operation

- <DOWN> : Shifting to the next item
 <UP> : Shifting to the previous item
 <RIGHT> : Adding by one to the adjustment/setting value
 <LEFT> : Subtracting by one from the adjustment/setting value
 <SET> : Determining the adjustment/setting value and shifting to the upper layer

D <Next nested layer of ETC (+)>

No.	Item	OSD Indication	Processing Contents	RS-232C COMMAND	Remarks
1	Backup EEPROM data	BACKUP DATA <=>	• NO OPRT (No operation) • TRANSFER (Backup data transmission)	BCP	
2	Digital EEPROM data	DIGITAL EEPROM <=>	• NO OPRT (No operation) • REPAIR (Adjustment is complete) • DELETE (Adjustment is not complete)	FAJ/UAJ	
3	PD history	PD INFO. <=>	• NO OPRT (No operation) • CLEAR (Data clear)	CPD	
4	SD history	SD INFO. <=>		CSD	
5	HOURLY METER	HR-MTR INFO. <=>		CHM	
6	Pulse meter	PM/B1-B5 <=>		CPM	
7	PON counter	P COUNT INFO. <=>		CPC	
8	Maximum temperature	MAX TEMP. <=>		CMT	
9	Mirror reversing display	MIRROR <=>	• Mirror reversing display OFF • MODE1 (Right and left reversing) • MODE2 (Top and bottom reversing) • MODE3 (Right and left, Top and bottom reversing)	MIR	The indication on the menu is also highlighted. The setting is canceled upon power-off.
10	Color sensor mode	CLS <=>	• Color sensor operation OFF • Color sensor operation ON	CSF	

[2-9] RASTER MASK SETUP (+)

- This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

		1	5	10	15	20	25	30	32																						
1			PANEL FACT.										IN1-30602-RGB-JHB																		
	AREA1																													[A1W1/60VS]	
	2																														
5	3																														
	4																														
	5																														
	6																														
	7																														
10	8																														
	9																														
	A																														
	B																														
	C																														
15	D RASTER MASK SETUP (+)																														
16	E																														

■ Key operation

- <DOWN> : Shifting to PATTERN MASK SETUP (+)
- <UP> : Shifting to ETC. (+)
- <SET> : Shifting to the next nested layer

			1	5	10	15	20	25	30	32																								
1			PANEL FACT.										IN1-30602-RGB-JHB																					
	AREA1		RASTER MASK SETUP										[A1W1/60VS]																					
		2																																
		3																																
		4																																
		5																																
		6																																
		7																																
10		8																																
		9																																
		A																																
		B																																
		C																																
15		DRST MASK 01										: 60V																						
16		E																																

■ Key operation

- <DOWN> : Shifting to the next MASK
- <UP> : Shifting to the previous MASK
- <RIGHT> : Changing MASK sequence (+)
- <LEFT> : Changing MASK sequence (-)
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of RASTER MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKR/VFQ	
2	Display raster mask 01	RST MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
26	Display raster mask 25	RST MASK 25 <=>			

A [2-10] PATTERN MASK SETUP (+)

- This menu set the PATTERN MASK and the drive sequence at PATTERN MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1					[A1W1/60VS]			
	2								
5	3								
	4								
	5								
	6								
B	7								
10	8								
	9								
	A								
	B								
	C								
15	D	PATTERN	MASK	SETUP	(+)				
16	E								

■ Key operation

- <DOWN> : Shifting to COMBI MASK SETUP (+)
- <UP> : Shifting to RASTER MASK SETUP (+)
- <SET> : Shifting to the next nested layer

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1	PATTERN	MASK	SETUP		[A1W1/60VS]			
	2								
5	3								
	4								
	5								
	6								
10	7								
	8								
	9								
	A								
	B								
	C								
15	D	PTN	MASK	01		: 60V			
16	E								

■ Key operation

- <DOWN> : Shifting to the next MASK
- <UP> : Shifting to the previous MASK
- <RIGHT> : Changing MASK sequence (+)
- <LEFT> : Changing MASK sequence (-)
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of PATTERN MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKS/VFQ	
2	Display raster mask 01	PTN MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
50	Display raster mask 49	PTN MASK 49 <=>			

[2-11] COMBI MASK SETUP (+)

- This menu set the COMBI MASK and the drive sequence at COMBI MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1					[A1W1/60VS]			
2									
3									
4									
5									
6									
7									
8									
9									
A									
B									
C									
D		COMBI MASK SETUP (+)							
E									

■ Key operation

- <DOWN> : Shifting to PANEL INFORMATION
- <UP> : Shifting to PATTERN MASK SETUP (+)
- <SET> : Shifting to the next nested layer

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1	COMBI MASK SETUP				[A1W1/60VS]			
2									
3									
4									
5									
6									
7									
8									
9									
A									
B									
C									
D		CMB MASK 01				: 60V			
E									

■ Key operation

- <DOWN> : Shifting to the next MASK
- <UP> : Shifting to the previous MASK
- <RIGHT> : Changing MASK sequence (+)
- <LEFT> : Changing MASK sequence (-)
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of COMBI MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKC/VFQ	
2	Display raster mask 01	CMB MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
18	Display raster mask 17	CMB MASK 17 <=>			

A [3] OPTION

Operation item

No.	Function	Content	RS-232C
[3-1]	CH PRESET <=>	Set the channel map for production line	SCP
[3-2]	Digital AFT <=>	Set AFT of the Satellite digital broadcasting (*1)	AFT
[3-3]	SYNC DET (+)	Set the synchronized signal detection of VDEC	----
[3-4]	CTI (+)	Set the synchronized signal detection of VDEC	----

(*1): PDP-LX5090H only

B

[3-1] CH PRESET <=>

Exclusively used for production line.

[3-2] Digital AFT <=>

Exclusively used for production line.

C [3-3] SYNC DET (+)

Exclusively used for technical analysis (details omitted).

[3-4] CTI (+)

Exclusively used for technical analysis (details omitted).

D

E

F

[4] INITIALIZE

Operation item

No.	Function	Content	RS-232C
[4-1]	SIDE MASK LEVEL (+)	Configure the color of the side mask.	SML
[4-2]	FINAL SETUP (+)	Initialize flash memories on virgin product status	FST
[4-3]	DTB SERVICE MODE (+)	Enter the Digital Tuner Service Menu (*1)	----
[4-4]	Wide XGA AUTO <=>	Exclusively used for technical analysis.	----
[4-5]	AUTO ADJUSTMENT (+)	Perform the auto-adjustment setting process	----

(*1): PDP-LX5090H only

[4-1] SIDE MASK LEVEL (+)

1	5	10	15	20	25	30	35	40
1	INITIALIZE	AV1-10501-PLV-EHB						
5								
10								
15	SIDE MASK LEVEL (+)							
16								

To configure sidemask level (To adjust the values, input signal is required).

Display Item	Content	RS-232C
SIDE MASK LEVEL <=>	Adjust Side Mask level (Adjustable range: 000 to 255, Initial value: 115)	SML

Note: In this mode (SIDE MASK LEVEL), adjustment value cannot be changed with the VOLUME +/- keys.

[4-2] FINAL SETUP (+)

1	5	10	15	20	25	30	35	40
1	INITIALIZE	AV1-10501-PLV-EHB						
	FINAL SETUP							
5								
10								
15	DATA RESET <=>	: NO						
16								

- To reset each memory value to factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [ENTER/SET] key is pressed for 5 seconds, the reset action executes.

Be sure to disconnect and connect the AC cable after FINAL SETUP.

When replacing the MAIN Assy, the FINAL SETUP is required.

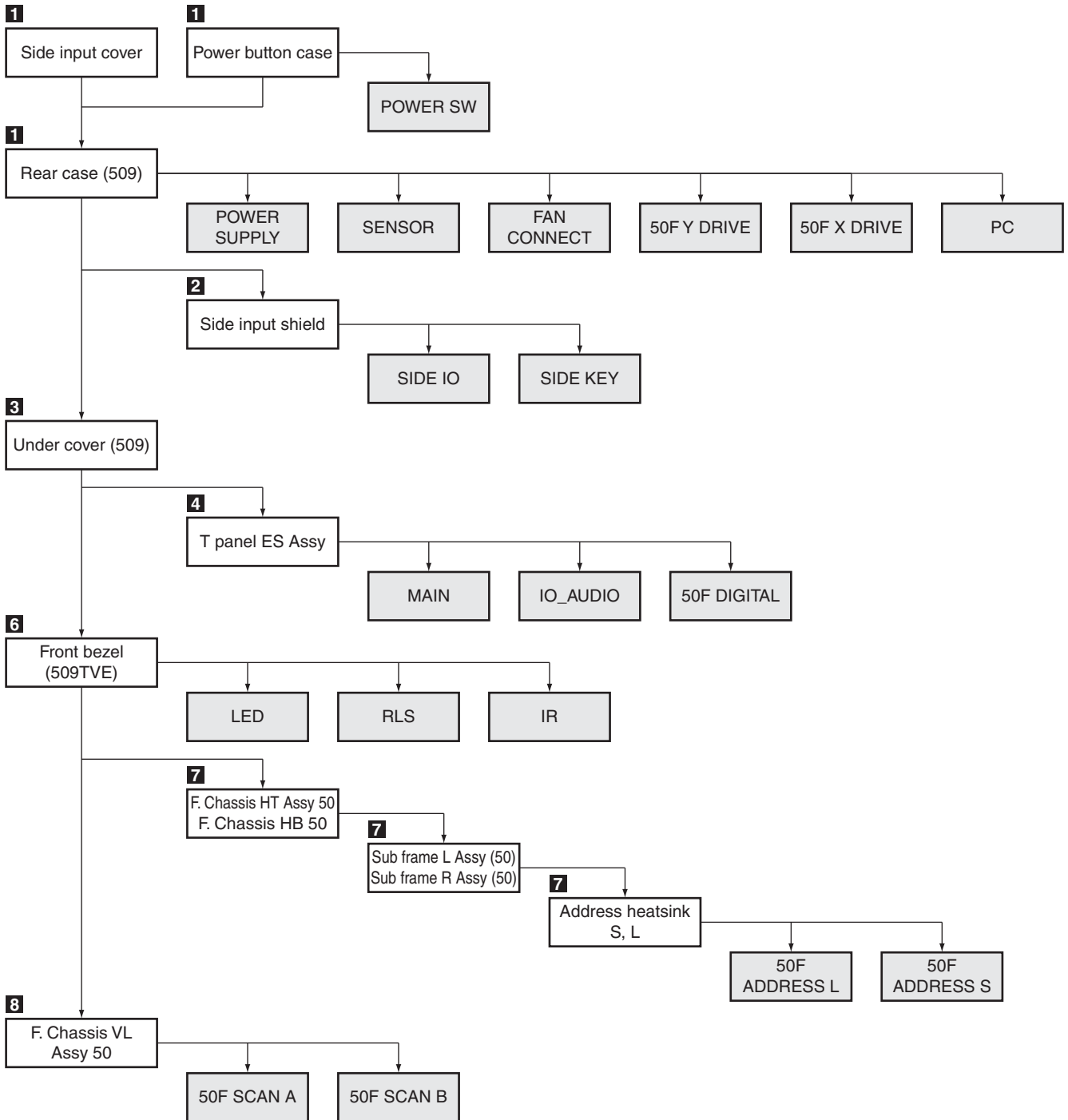
7. DISASSEMBLY

7.1 FLOWCHART OF REMOVAL ORDER

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Flowchart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



7.2 DISASSEMBLY

Disassembly

1 Rear Case (509)

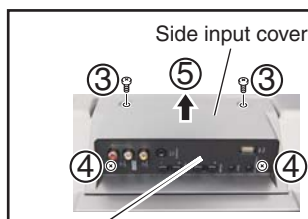
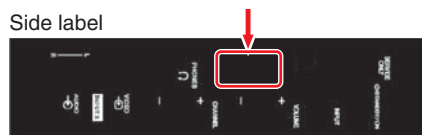
● Power button case

- ① Remove the two screws. (ABA1379)
- ② Remove the power button case.

● Side input cover

- ③ Remove the two screws. (ABA1378)
- ④ Remove the two screws. (ABA1377)
- ⑤ Remove the side input cover.

A cutout for an HDMI connector is provided on the side input cover, and the side label is attached over the cutout. Be careful not to accidentally push on the area of the label indicated in the figure below, because that area will become indented.

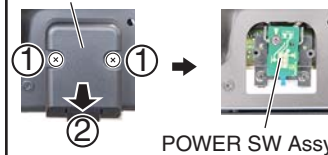


● Screw tightening order

The other screws are random order.



Power button case



● Screw tightening order



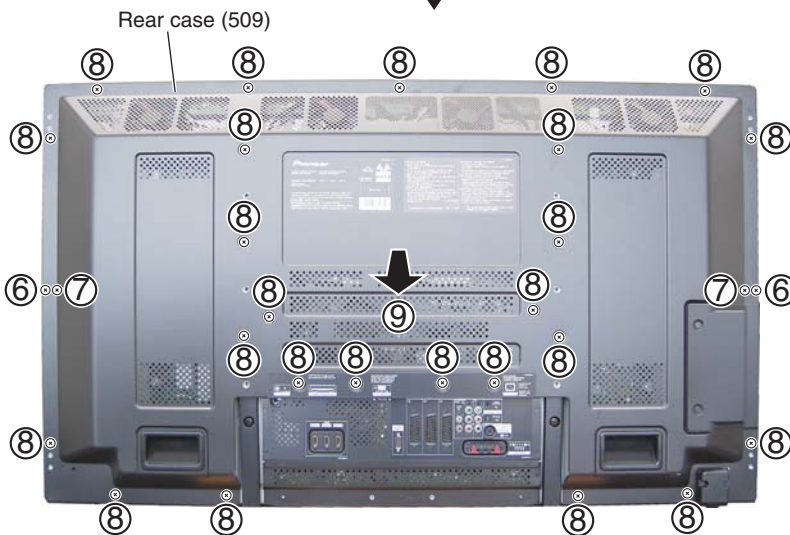
● Rear case (509)

- ⑥ Remove the two screws. (ABA1380)
- ⑦ Remove the two screws. (ABA1379)
- ⑧ Remove the 25 screws. (ABA1377)
- ⑨ Remove the rear case (509).

Reference



ABA1377 ABA1378



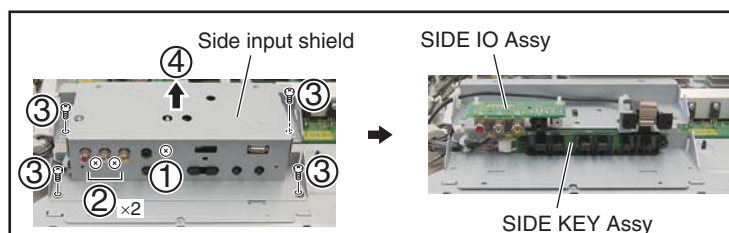
● Screw tightening order

The other screws are random order.



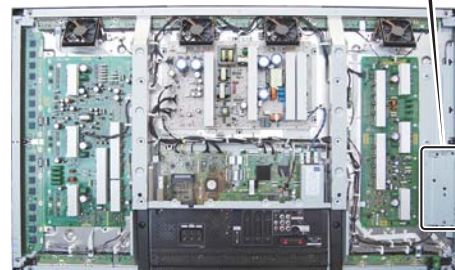
2 Side Input Shield

- ① Remove the one screw. (BMZ30P080FTB)
- ② Remove the two screws. (BPZ30P080FTB)
- ③ Remove the four screws. (AMZ30P060FTB)
- ④ Remove the side input shield.



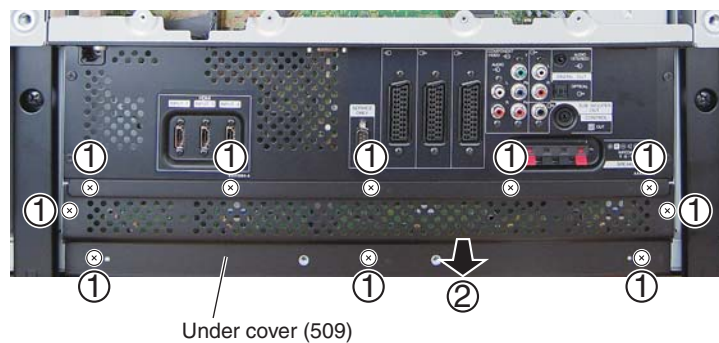
• Screw tightening order

The other screws are random order.



3 Under Cover (509)

- ① Remove the 10 screws. (ABA1377)
- ② Remove the under cover (509).



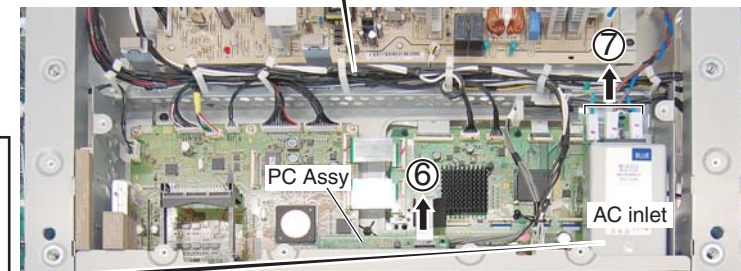
■ Screw tightening order

The other screws are random order.

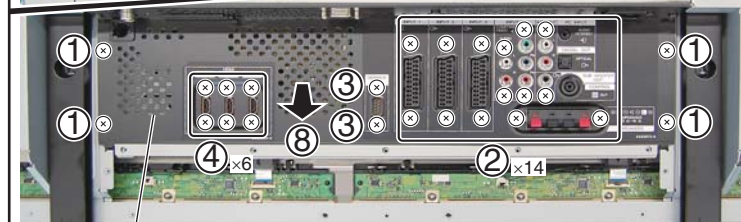
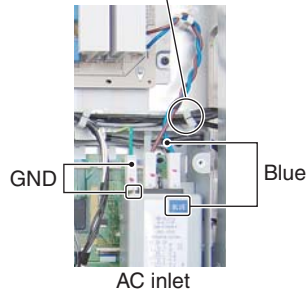


4 T Panel ES Assy

- ① Remove the 10 screws. (ABA1377)
- ② Remove the 14 screws. (BPZ30P080FTB)
- ③ Remove the two hexagon head screws. (ABA1382)
- ④ Remove the six screws. (BMZ30P060FTB)
- ⑤ Remove the card lid.
- ⑥ Disconnect the one flexible cable.
- ⑦ Disconnect the three connectors.
- ⑧ Remove the T panel ES Assy.



Do NOT pass the AC inlet jumper wire through this wire saddle.



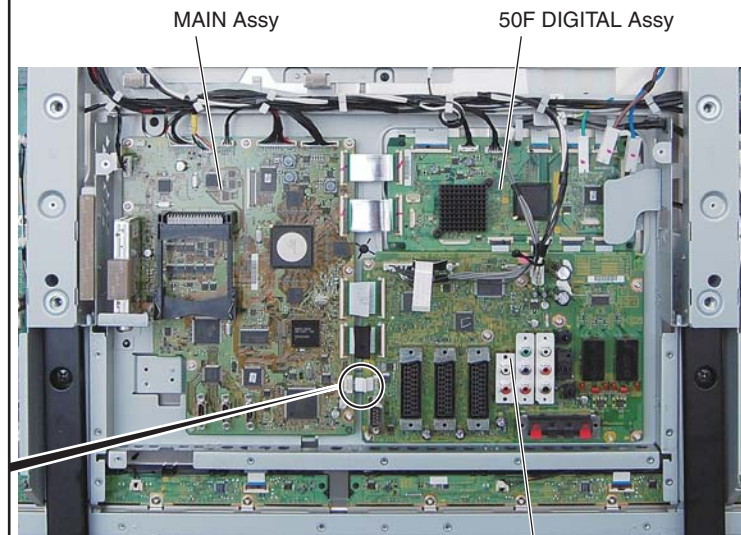
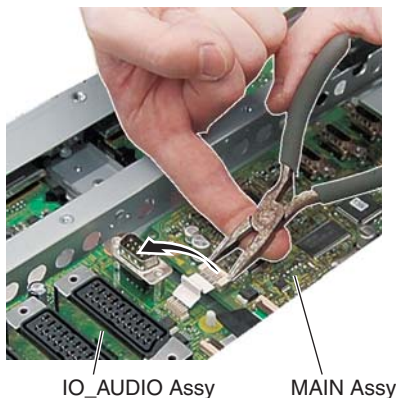
T panel ES Assy



Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

How to remove the bridge connector

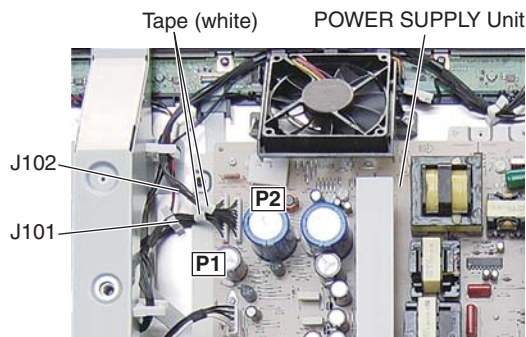
- (1) Grip the two short edges of the connector with longnose pliers.
- (2) Insert a finger between the longnose pliers and the board to protect the board and the mounted parts on the board from accidental damage by the pliers then, using your finger as a fulcrum and the pliers as a lever, pry the connector upward to remove it.



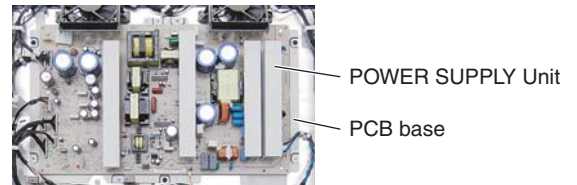
Notes on Lead Dressing

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

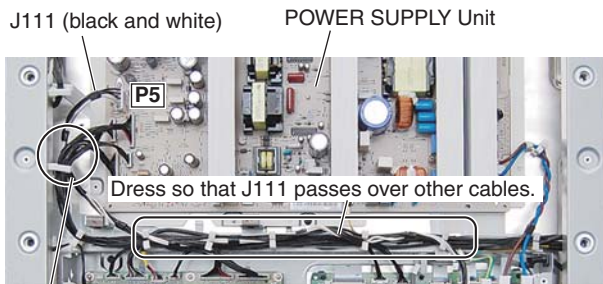
The J101 and J102 cables require correct orientation for connection. Connect the connectors with white tape to the POWER SUPPLY Unit.



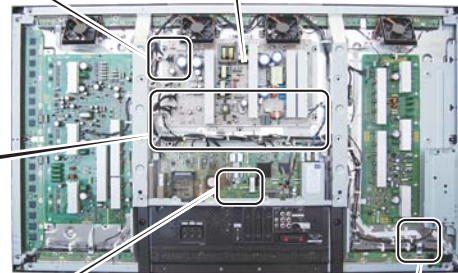
When removing the POWER SUPPLY Unit, be sure to remove not only the POWER SUPPLY Unit but entire PCB base.



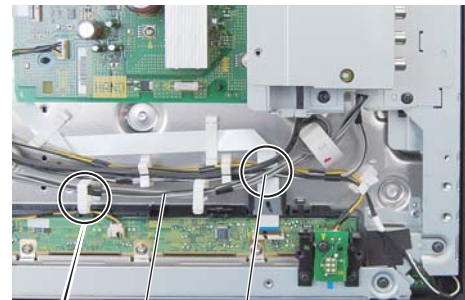
Around the periphery of the Multibase, the J111 cable wires (black and white) must be bound lastly then be dressed so that they pass over other cables.



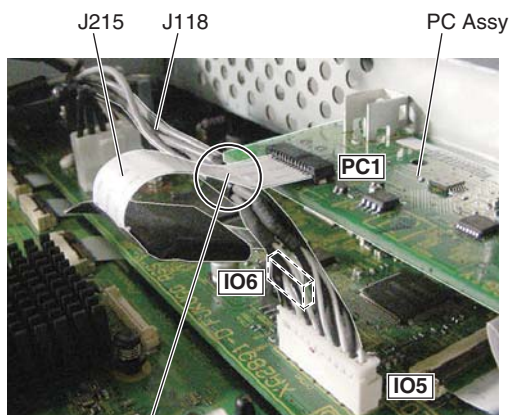
Dress the J111 so that it passes under other cables.



Dress the J118 cable so that it passes over other cables.

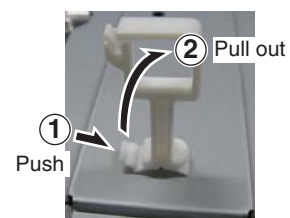


The J215 cable must be passed over the J118 cable.



Pass J215 over J118.

How to remove the newly adopted wire saddle from the chassis



5 Access to 50F DIGITAL Assy

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

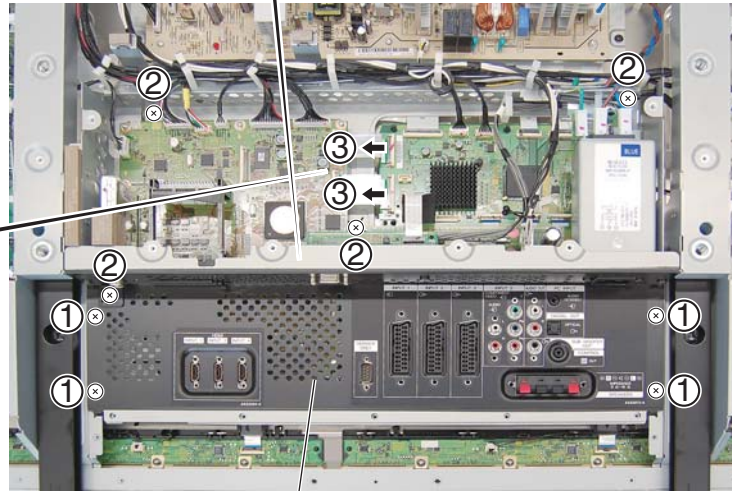
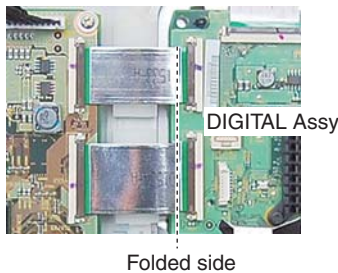
Note:

When you remove whole Multibase Section, it is not necessary to remove T panel ES Assy.

- ① Remove the six screws. (ABA1377)
- ② Remove the four screws. (ABA1351)
- ③ Disconnect the two flexible cables.

Note on connection of the flexible cable

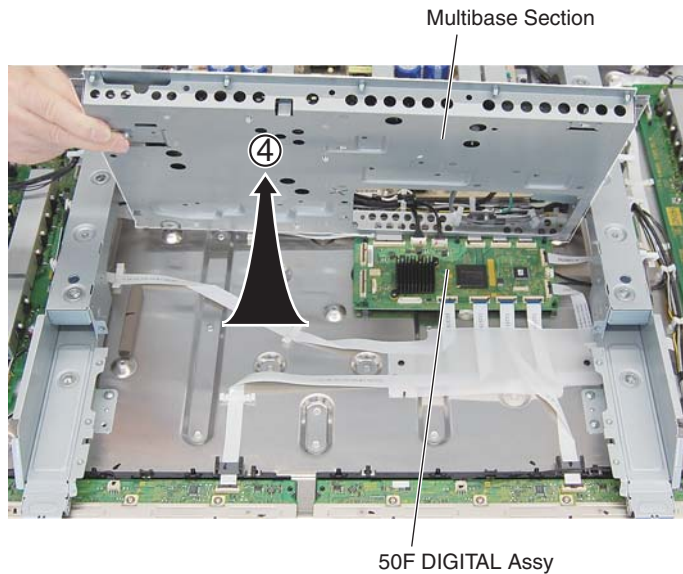
This flexible cables requires correct orientation for connection. Connect the folded side of the cable to the connector on the DIGITAL Assy, as shown in the photo below. **Reversely connecting the cable will damage the Assy.**



T panel ES Assy

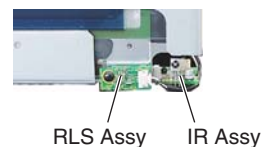
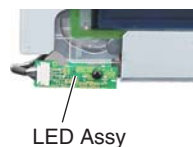
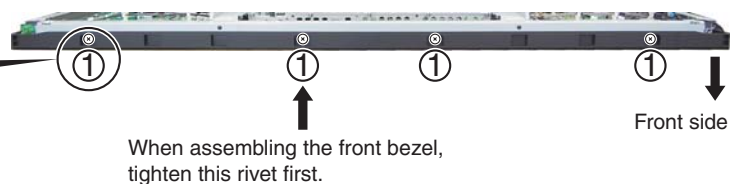
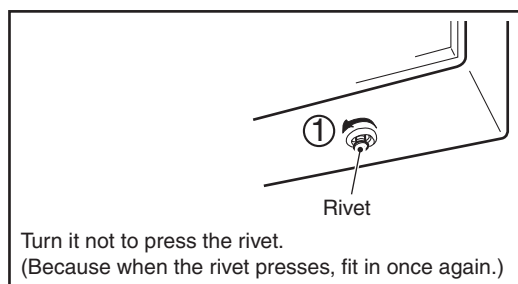
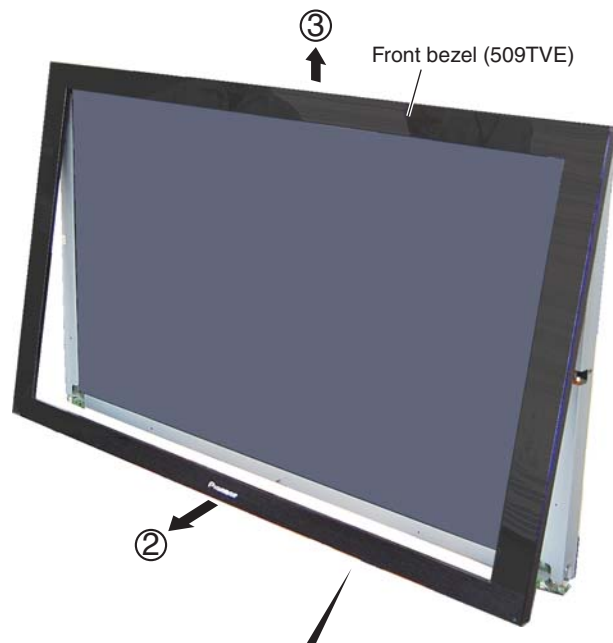


- ④ Lift the Multibase Section to the direction of the arrow.



6 Front Bezel (509TVE)

- ① Remove the four rivets.
- ② Pull the lower part of the front bezel (509TVE) toward you and out.
- ③ Remove the front bezel (509TVE), by pulling it upward.

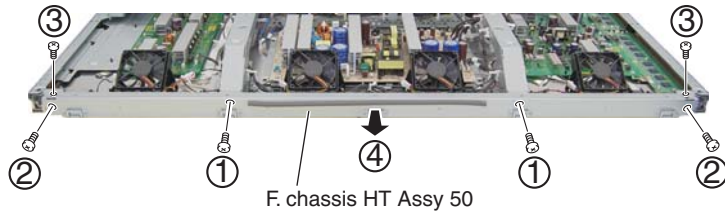


A

7 Access to ADDRESS L and S Assys

● F. Chassis HT Assy 50

- ① Remove the two screws. (AMZ30P060FTB)
- ② Remove the two screws. (ABZ30P080FTC)
- ③ Remove the two screws. (AMZ30P060FTB)
- ④ Remove the F. chassis HT Assy 50.



B

■ Screw tightening order

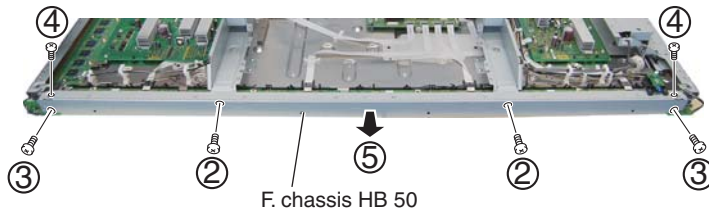
The other screws are random order.



C

● F. Chassis HB 50

- ① Disconnect cables, connectors, as required.
- ② Remove the two screws. (AMZ30P060FTB)
- ③ Remove the two screws. (ABZ30P080FTC)
- ④ Remove the two screws. (AMZ30P060FTB)
- ⑤ Remove the F. chassis HB 50.



D

■ Screw tightening order

The other screws are random order.



E

F

● Sub frame L and R Assys

- ① Disconnect cables, connectors, as required.
- ② Remove the four screws. (TBZ40P060FTC)

Sub frame R Assy (50)

Sub frame L Assy (50)



Sub frame L Assy (50)

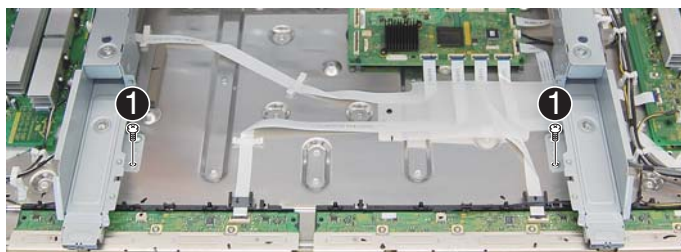
Sub frame R Assy (50)



- ③ Remove the eight screws. (TBZ40P060FTC)
- ④ Remove the sub frame L and Assys.

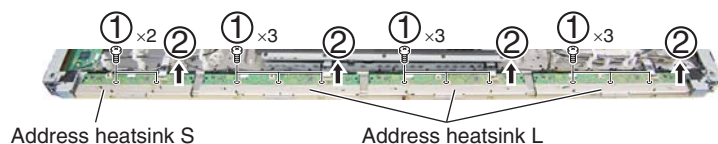
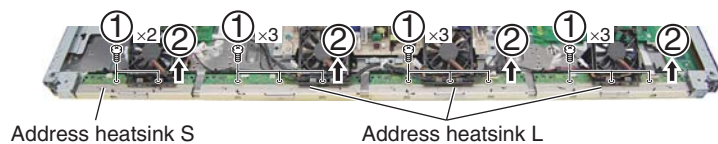
■ Screw tightening order

The other screws are random order.



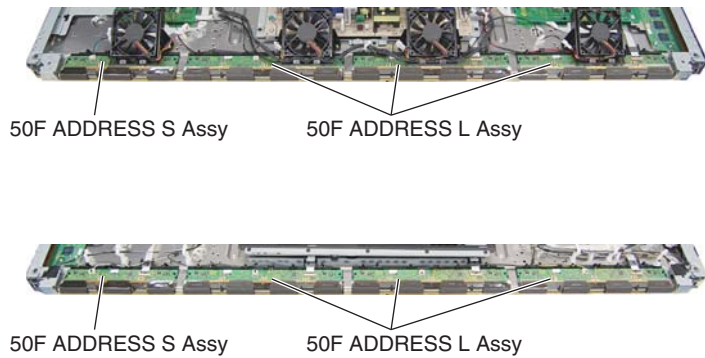
● Address heatsink S , L

- ① Remove the 22 screws. (ABA1351)
- ② Remove the two address heatsinks S and six address heatsinks L.



PDP-LX5090

A

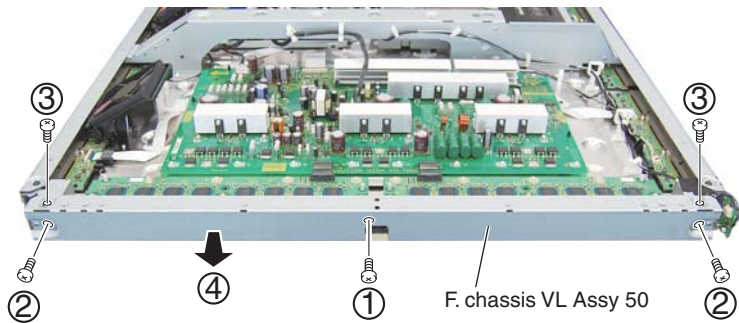


B

C

8 Access to SCAN A and B Assys

- ① Remove the one screw. (APZ30P080FTB)
- ② Remove the two screws. (ABZ30P080FTC)
- ③ Remove the two screws. (AMZ30P060FTB)
- ④ Remove the F. chassis VL Assy 50.



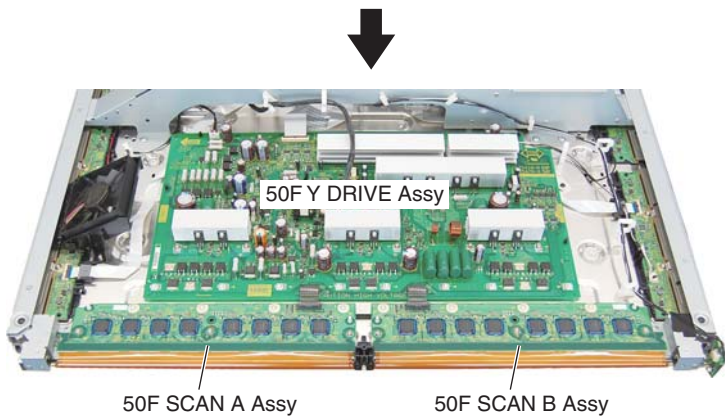
D

Screw tightening order

The other screws are random order.



E



F

8. EACH SETTING AND ADJUSTMENT



1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	Refer to "8.3 HOW TO CLEAR HISTORY DATA".
DIGITAL Assy	➡	Writing of backup data is required. Refer to the "8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)".
X DRIVE Assy	➡	No adjustment required
Y DRIVE Assy	➡	No adjustment required
Service Panel Assy	➡	Refer to "8.3 HOW TO CLEAR HISTORY DATA" and "8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED".
MAIN Assy (*)	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
IO AUDIO Assy	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
PANEL SENSOR Assy	➡	No adjustment required Backup data are automatically copied during the next power-off.
Other assemblies	➡	No adjustment required

(*) : When replacing the MAIN Assy, be sure to perform the FINAL SETUP.

■ When any of the following assemblies is repaired

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.

If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2555	MAIN Assy	IC5002	EEPROM	BR24L02FV-W
		IC5003	EEPROM	BR24L02FV-W
		IC5004	EEPROM	BR24L02FV-W
		IC7004	EEPROM	BR24L64F-W
		IC6701	Flash ROM	AGC1080
		IC6811	Flash UCOM	AGC1072
		IC7202	Flash ROM	AGC1075
		IC7205	Flash ROM	AGC1076
AWV2543	DIGITAL Assy	IC3302	Flash ROM	AGC1071
		IC3601	Flash UCOM	AGC1070
AWW1359	PC Assy	IC8802	EEPROM	BR24L01AFJ-W
AWW2546	X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWW2547	Y DRIVE Assy	• Parts of Y VF D-D CON BLOCK 1		
		• Parts of Y MAIN D-D CON BLOCK 1		
		• Parts of Y MAIN D-D CON BLOCK 2		

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

For the parts described in the table below, replacement of individual parts is difficult, because a heat pad is provided under the bottom of the ICs.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2555	MAIN Assy	IC4501	DC/DC Converter	LTC3407EMSE-2
		IC4901	HDMI Rx	SII9125CTU
AWW1354	IO AUDIO Assy	IC8401	Digital Amp	TAS5122DCA

POWER SUPPLY Unit	➡	The assembly must be replaced as a unit, and no part replacement is allowed.	A
MAIN Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED."	
IO AUDIO Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED."	
DIGITAL Assy	➡	No adjustment required	B
X DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED."	
Y DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED."	
ADDRESS Assy	➡	No adjustment required	C
PANEL SENSOR Assy	➡	No adjustment required	
Other assemblies	➡	No adjustment required	

D

E

F

A

■ Outline

Adjustment data are stored in the EEPROM on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup) on the PANEL SENSOR Assy.
If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the PANEL SENSOR Assy to a new DIGITAL Assy.

■ Backed up data

- B
- Drive voltage adjustment value
 - Panel white balance adjustment value
 - Drive waveform adjustment value
 - Hour-meter count

- Pulse-meter count
 - P-ON counter value
 - Serial No.
 - PD/SD histories

■ How to copy backup data

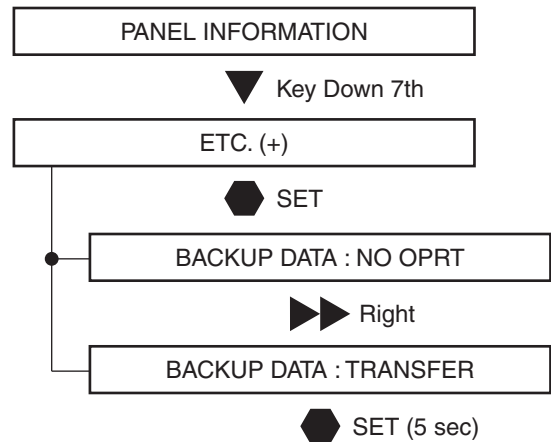
1. When the DIGITAL Assy is replaced with one for service (usual service)

Immediately after the DIGITAL Assy is replaced, the EEPROM on the DIGITAL Assy is in the status "adjustment not completed," and the EEPROM for backup on the PANEL SENSOR Assy is in the status "adjustment completed." The LED on the main unit warns you that the adjustment data in the EEPROM for backup have not been copied to the EEPROM on the DIGITAL Assy, by lighting the red LED and flashing the blue LED. In such a case, the adjustment data for backup can be used by copying the data to the EEPROM on the DIGITAL Assy, with the following procedures:

C

(1) Copying, using the Factory menu

- ① Turn on the power.
- ② Enter the Panel Factory mode.
- ③ Display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP".
- ④ Copy the backup data, as shown in the figure below.



- E
- ⑤ Check if "ADJUSTED" is set for "DIG. EEP" on the PANEL INFORMATION page.

⑥ Turn off the power.

(2) Copying, using the RS-232C commands

- ① Turn on the power.
- ② Issue the FAY command.
- ③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment not completed" and that the adjustment backup flag is "adjustment completed."
- ④ Issue the BCP command to transfer the data stored in the EEPROM for backup.
- ⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment completed."
- ⑥ Turn off the power.

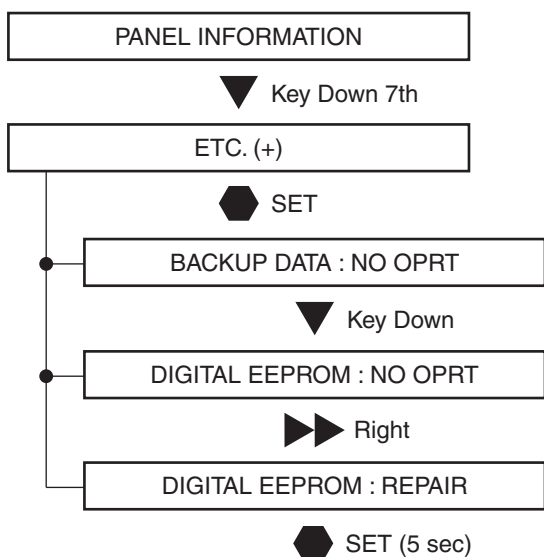
Note: If both the DIGITAL and PANEL SENSOR Assys are to be replaced, replace the PANEL SENSOR Assy first in order to store the backup data. Then turn the unit on then back off again, then replace the DIGITAL Assy.

2. When manual adjustment is required after the DIGITAL Assy is replaced with one for service

If backup data cannot be transferred to the DIGITAL Assy because of defective parts, etc., after the DIGITAL Assy is replaced and manual adjustment is performed, those manually adjusted data can be registered as adjusted data with the following procedures. Once the data on the DIGITAL Assy are registered as adjusted data, the adjustment data for backup will be automatically updated each time the unit is turned off. Therefore, if a DIGITAL Assy with adjusted data is mounted on the unit, the following procedures are not required, even after manual adjustment.

(1) Copying, using the Factory menu

- ① Turn on the power.
- ② Enter the Panel Factory mode.
- ③ Display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP".
- ④ Register the changed adjustment data as adjusted data, as described for the following procedures, then transfer them as backup data.



- ⑤ Check if "ADJUSTED" is set for "DIG. EEP" on the PANEL INFORMATION page.
- ⑥ Turn off the power.

(2) Copying, using the RS-232C commands

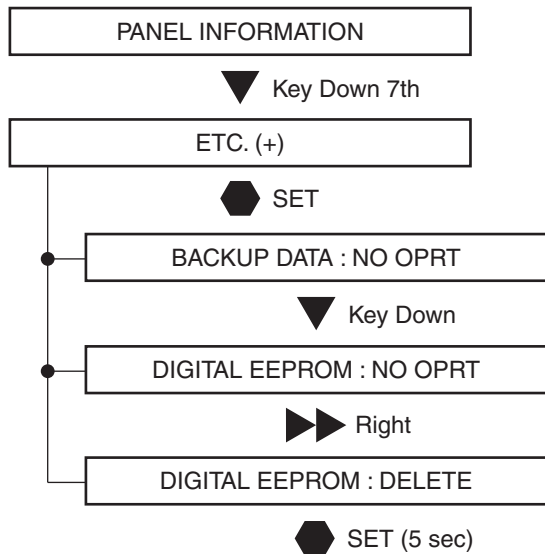
- ① Turn on the power.
- ② Issue the FAY command.
- ③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment not completed."
- ④ Issue the FAJ command to register the changed adjustment data as adjusted data then transfer them as backup data.
- ⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment completed."
- ⑥ Turn off the power.

3. When a secondhand DIGITAL Assy is to be reused

A DIGITAL Assy in good condition that had been mounted in another product can be reused. Before reuse, by following the procedures described below, make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data in order to prevent accidental updating of backup data when the secondhand DIGITAL Assy is mounted in another product

(1) Copying, using the Factory menu

- ① Turn on the power.
- ② Enter the Panel Factory mode.
- ③ Display the PANEL INFORMATION page, then check if "ADJUSTED" is set for "DIG. EEP".
- ④ Make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data, by following the procedures below:



- ⑤ Check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page.
- ⑥ Turn off the power.

(2) Copying, using the RS-232C commands

- ① Turn on the power.
- ② Issue the FAY command.
- ③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment completed."
- ④ Issue the UAJ command to make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data.
- ⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment not completed."
- ⑥ Turn off the power.

Note: If you mount a secondhand Assy to the product without performing the above procedures, the adjustment data and logs for the main unit specific to the product will be erased, and those of the secondhand Assy will be copied when the unit is turned off.

8.3 HOW TO CLEAR HISTORY DATA

■ Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up. Some of those data must be cleared after the Assys are replaced for service.

Clearance of those data can be performed in the ETC layer of the Factory menu or with RS232C commands.

Item	Content	Clearing at the Replacement			Clearing method	
		Panel	POWER SUPPLY Unit	Other parts	Factory Menu (ETC layer)	RS-232C Commands
Hour-meter	Accumulated power-on time	Must be cleared	No need to be cleared	No need to be cleared	HR-MTR INFO.	CHM
Pulse-meter	Accumulated number of pulses emitted	Must be cleared (mandatory)	No need to be cleared	No need to be cleared	PM/B1-B5	CPM
Shutdown history of the panel	Causes and hour-meter values for the last eight shutdowns (SD) of the Panel	Must be cleared	No need to be cleared	No need to be cleared	SD INFO.	CSD
Power-down history	Causes and hour-meter values for the last eight power-downs (PDs) of the Panel	Must be cleared	No need to be cleared	No need to be cleared	PD INFO.	CPD
Power-on counter	Relay-on count	No need to be cleared	Must be cleared (mandatory)	No need to be cleared	P COUNT INFO.	CPC
MAX TEMP	Historical max. temperature of the panel	Must be cleared	Must be cleared	Must be cleared	MAX TEMP.	CMT

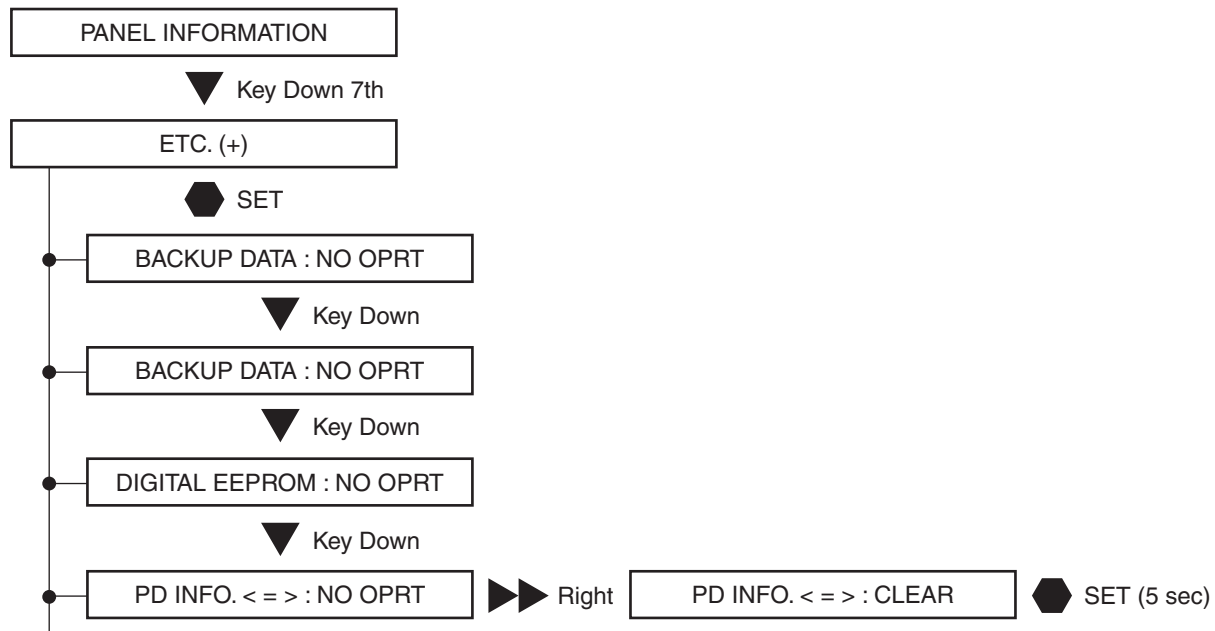
Notes:

- As the pulse-meter count is used for each correction function, the log must be cleared when the panel is replaced.
- After you clear the log, the unit must be turned off then back on again to reflect the cleared data for each correction function. If any adjustment is required after clearing the log, be sure to turn the unit off then back on again before adjustment.

(1) Clearance of logs, using the Factory menu

- ① Turn on the power.
- ② Enter the Panel Factory mode.
- ③ Clear the various logs, as shown in the figure below.

Note: The following example shows how to clear the PD log (PD INFO.). To clear other items, select each item you wish to clear then perform the same procedures.



- ④ Turn off the power.

(2) Using the RS-232C commands

- ① Turn on the power.
- ② Issue the FAY command.
- ③ Issue the Delete command for a log you wish to clear.
- ④ Turn off the power.

1234

8.4 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

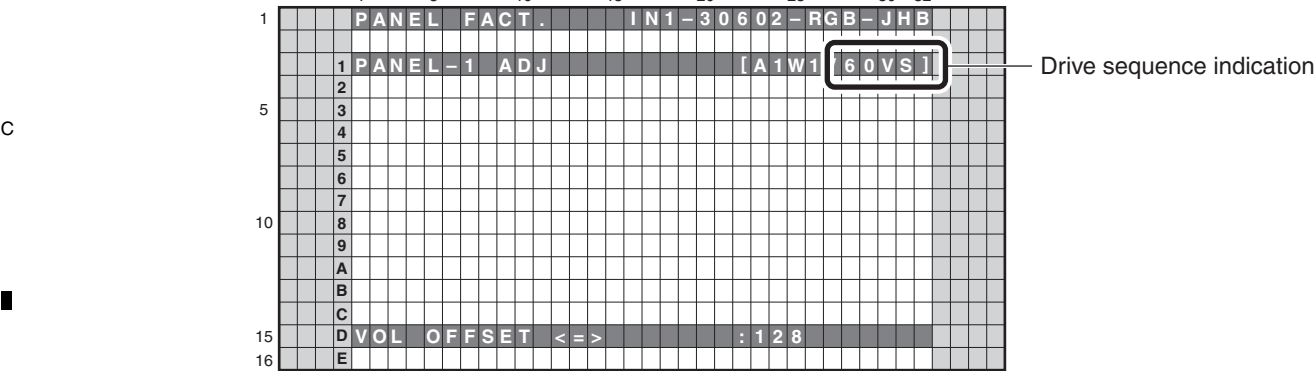
A

After the panel is replaced with one for service, voltage margin adjustment is required.

[Preparation]

Basically, voltage margin adjustment is performed using the Panel Factory menu.
After the panel is replaced and the unit is turned on, clear the pulse meter first.
For details on how to clear the pulse meter, see "8.3 HOW TO CLEAR HISTORY DATA".

- B
- *1: As various corrections are made referring to the pulse-meter count to calculate how long the panel has been used, if adjustment of the panel for service is performed without clearing the pulse-meter count, proper adjustments will not be performed.
 - *2: The drive sequence for Video 60-Hz is used for adjustment. When adjustment is made using the Panel Factory menu, the current drive sequence is displayed on the screen, as shown in the figure below. Make sure that 60VS is always indicated during adjustment.

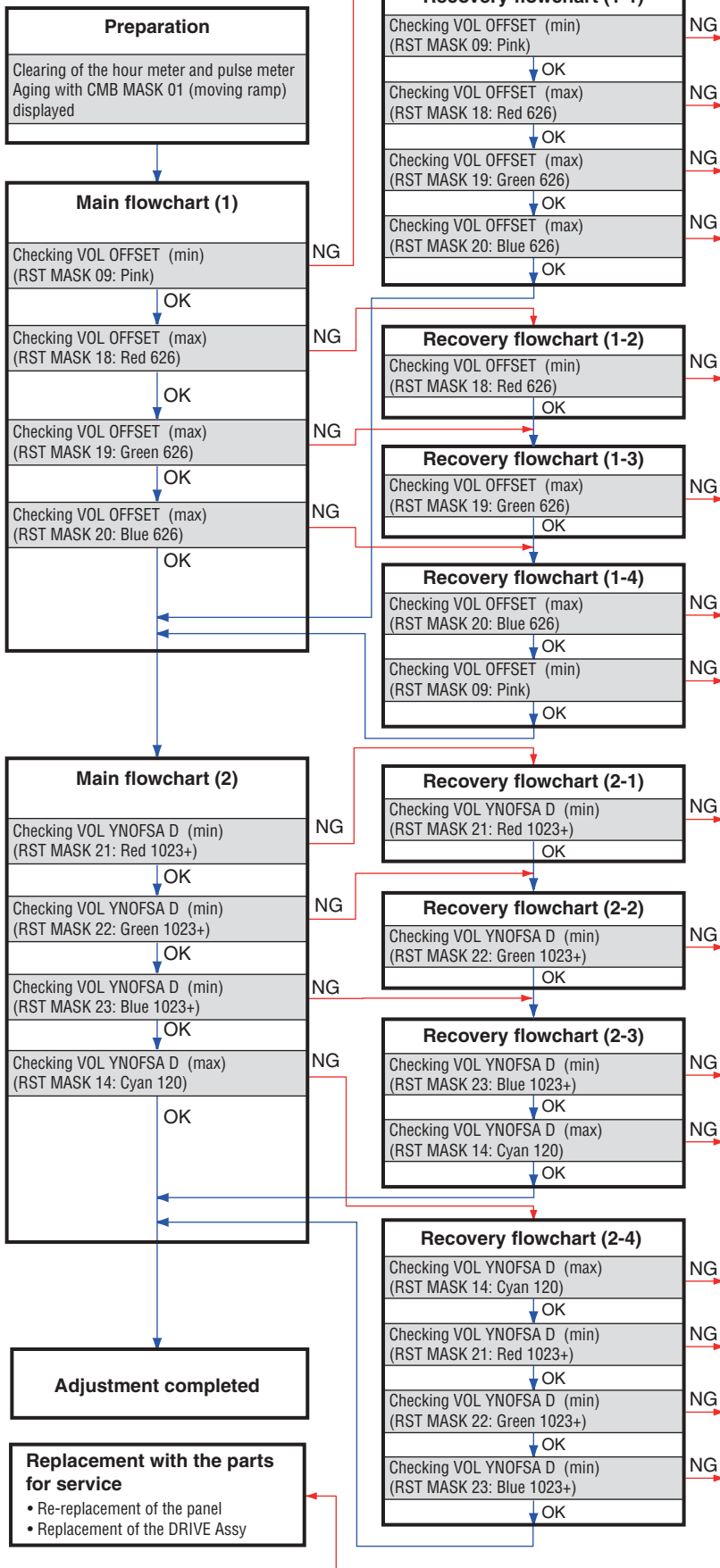


Example of the On-Screen display during Panel Factory mode

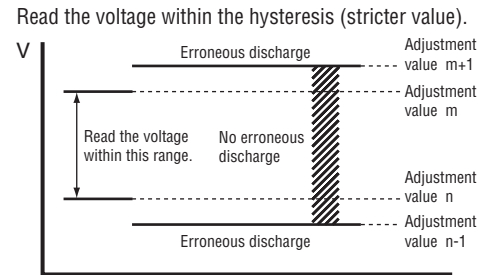
[Supplement]

In the "PANEL-1ADJ" layer, the Panel White Balance value is reset to default, Panel Gamma is set to Straight, Noise is set to OFF, LUT mode is set to ON and Reset active control is set to OFF.
If adjustment is performed using RS232C commands, unlike the case of Factory menu operation, adjustments are not interlocked. Therefore, settings must be performed individually, by issuing commands. (See the section on preparations before adjustment.)

Overview



Range of margin measuring



Definition of limits for the voltage margins (abnormal lit/dead cells)

Abnormal lit cells:

- Five or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

Abnormal dead cells

- Fifteen or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

*: Abnormal cells visually recognizable at a distance of 1 meter from the panel must be counted.

*: Cells displayed abnormally for less than one second are not counted as abnormal cells.

Definition of tones for the measuring signals

FHD signal (1920*1080)/Video 60-Hz sequence
/Dither: ON, L dither: ON, noise: OFF

Pink	RST MASK 09 (R 1023 /G 626 /B 1023)
Cyan 120	RST MASK 14 (R 0 /G 120 /B 120)
Red 626	RST MASK 18 (R 626 /G 0 /B 0)
Green 626	RST MASK 19 (R 0 /G 626 /B 0)
Blue 626	RST MASK 20 (R 0 /G 0 /B 626)
Red 1023+	RST MASK 21 (R 1023 /G 120 /B 120)
Green 1023+	RST MASK 22 (R 120 /G 1023 /B 120)
Blue 1023+	RST MASK 23 (R 120 /G 120 /B 1023)

Interlocked settings for Voltages Vyknofs1/3/4

For the 9th-generation PDPs, interlocked setting for Voltages Vyknofs1/3/4 is available on the Factory menu or with RS232C commands, for easier adjustment. Therefore, in the adjustment flowchart, the interlocked setting function is used. (Individual setting for each adjustment value is also possible, as in the conventional setting methods.

Set Voltage	Factory Menu	Command
Vyknofs1 individual	VOL YNOFS1 D	[V1F]
Vyknofs3 individual	VOL YNOFS3 D	[V3F]
Vyknofs4 individual	VOL YNOFS4 D	[V4F]
Vyknofs1,3,4 interlocked	VOL YNOFSA D	[VYF]

Note:

- The initial value for the interlocked setting value is 128, including for factory preset values.
- See "[3] DRIVE ASSY" of "5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS" for calculation of actually used voltage values.

A ■ Preparation before adjustment

[Replacement with the panel for service is completed.]

Procedures for resetting corrections for change over time

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Set PM/B1-B5 to CLEAR (to clear the pulse meter). / [CPM]

Set HR-MTR to CLEAR (to clear the hour meter). / [CHM]

Turn the unit off. / [POF]

Procedures for stabilizing the panel before adjustment

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Enter the tentative setting value of the replacement panel

Setting Item	Tentative Setting Value
VOL SUS / [VSU ***]	128
VOL OFFSET / [VOF ***]	VOF indication value
VOL RST P / [VRP ***]	VRP indication value
VOL XPOFS1 / [VX1 ***]	085
VOL XPOFS2 / [VX2 ***]	047
VOL YNOFS1 D / [V1F ***]	V1F indication value
VOL YNOFS3 D / [V3F ***]	V3F indication value +0
VOL YNOFS4 D / [V4F ***]	V4F indication value
VOL YNOFSA D / [VYF ***]	128

Note: "+0" shows α .

Display CMB MASK 01 (moving ramp). / [MKC S01]

Select Video 60-Hz sequence. / [VFQ S03]

Perform aging for 30 minutes.

[To the Main flowchart (1)]

* To reflect the results of log clearing for each correction function, the unit must be turned off then back on again. Before adjustment, be sure to turn the unit off then back on again.

Indication example of the adjustment label of service panel

AWU1340 Data **VOF=129**
VRP=031 **V1F=143** **V3F=128+ α**
V4F=172 **Hour Meter** _____ **H**
 Data 08/02/28 Chassis CXX99999
 Time 18:27 Pnl FD4A0808100123

Note: The symbol " α " denotes the adjustment value plus 0.
 * Each setting value described on the adjustment label denotes an indicated data value but not a real voltage value. Therefore, just enter the data value as a setting value.

* To store the VFQ S03 command in memory, transmit it after displaying the mask.

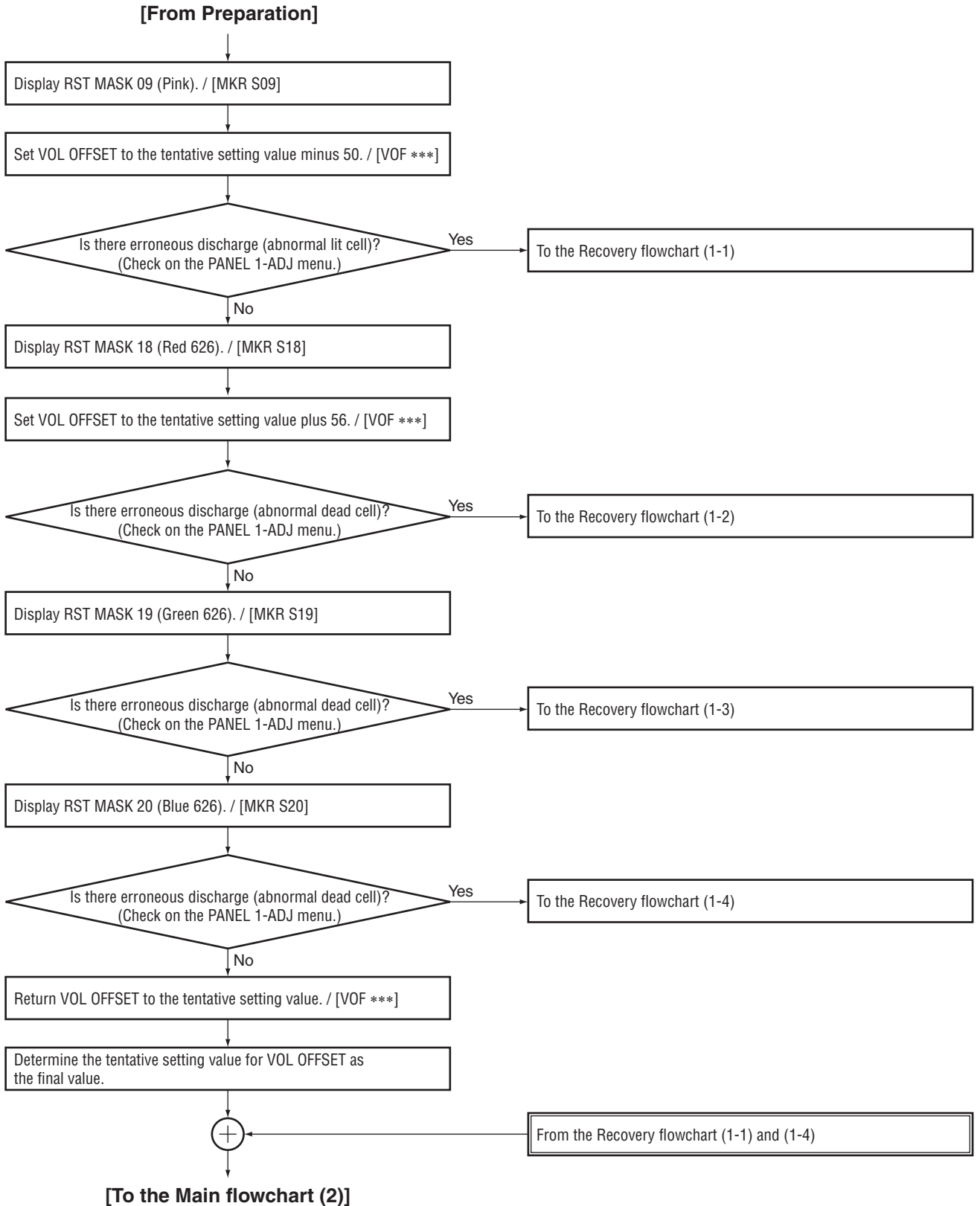
Note:

* When you perform the adjustment with RS232C commands, issue the following commands in addition.

* If the unit is shut down in the middle of performing the adjustment flowchart, reissuing of the command is required.

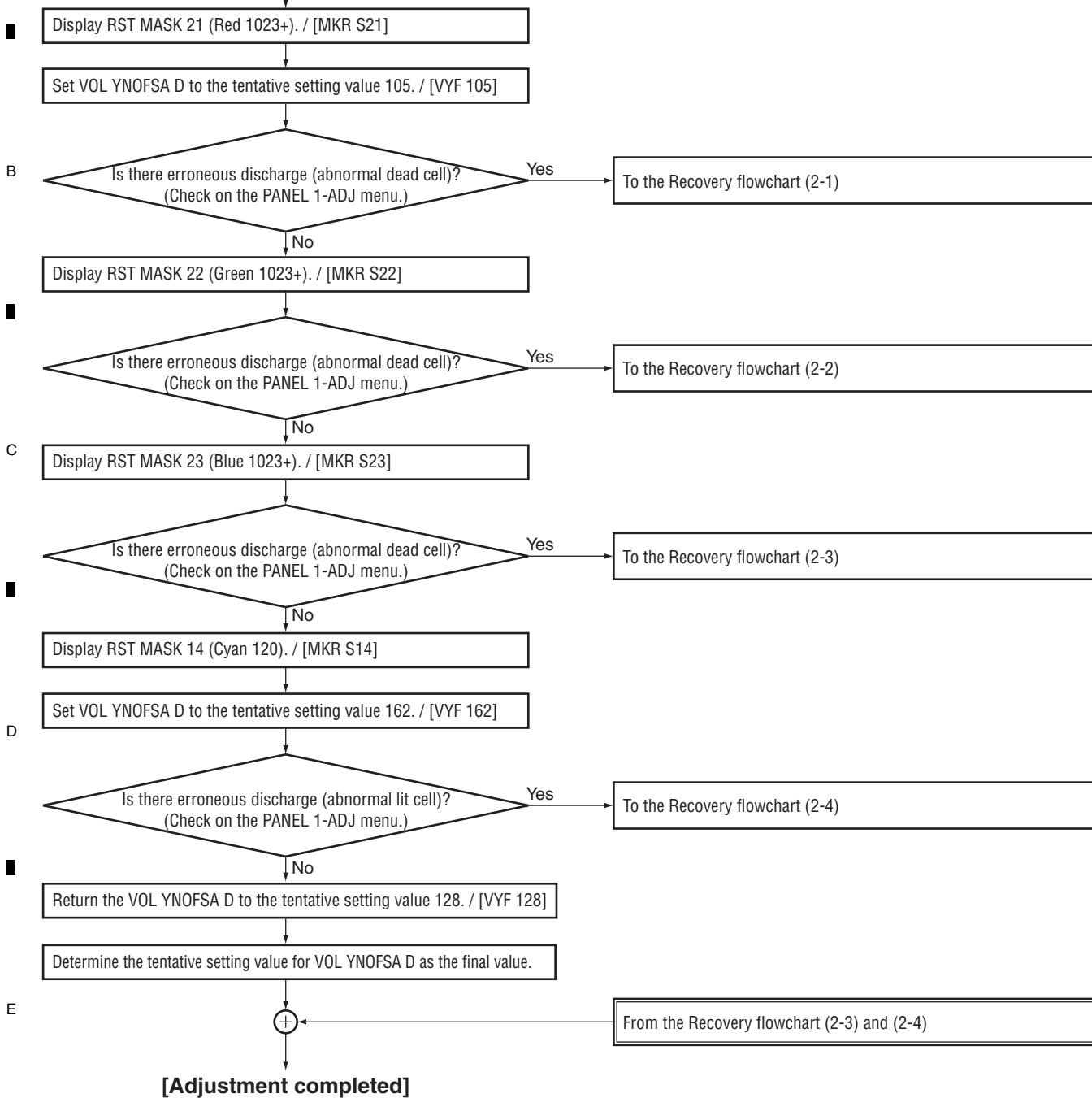
[PAV S00]	: To set panel drive mode to Factory
[VFQ S03]	: To set Drive Sequence to Video 60-Hz
[WBI S01]	: To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
[PGR S00]	: To set the gamma R value to that for Factory mode
[PGG S00]	: To set the gamma G value to that for Factory mode
[PGB S00]	: To set the gamma B value to that for Factory mode
[DIZ S03]	: Dither ON, L dither ON, noise OFF.
[\$1800000001]	: LUT mode ON

■ Main flowchart (1)...Checking VOL OFFSET

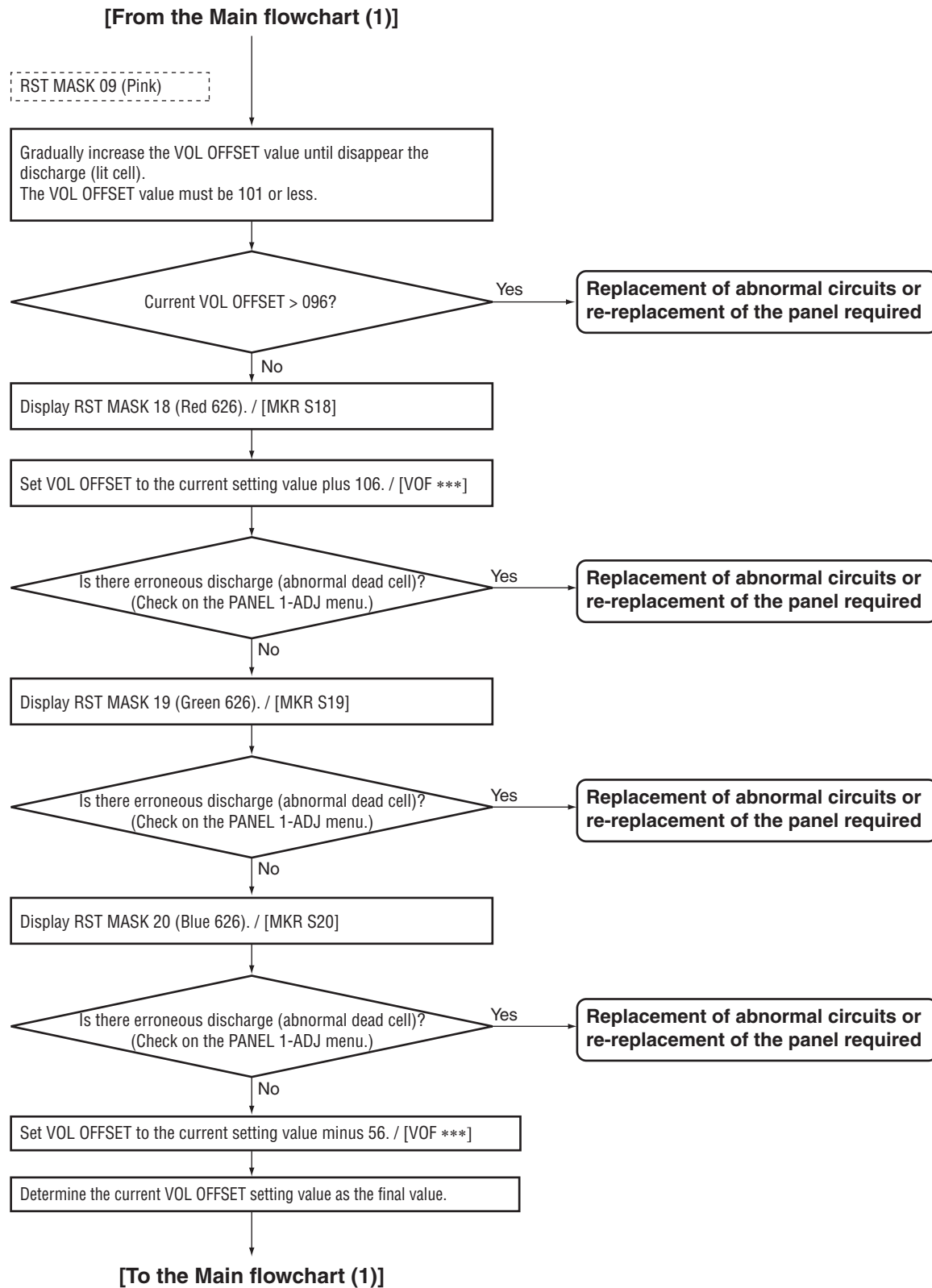


A ■ Main flowchart (2)...Checking VOL YNOFSA D

[From the Main flowchart (1)]



Recovery flowchart (1-1)...Changing the VOL OFFSET setting



A

Recovery flowchart (1-2)...Changing the VOL OFFSET setting

[From the Main flowchart (1)]

RST MASK 18 (Red 626)

Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
The VOL OFFSET value must be 152 or greater.

Current VOL OFFSET < 157?

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 19 (Green 626). / [MKR S19]

[To the Recovery flowchart (1-3)]

B

C

Recovery flowchart (1-3)...Changing the VOL OFFSET setting

[From the Main flowchart (1) / Recovery flowchart (1-2)]

RST MASK 19 (Green 626)

Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
The VOL OFFSET value must be 152 or greater.

Current VOL OFFSET < 157?

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 20 (Blue 626). / [MKR S20]

[To the Recovery flowchart (1-4)]

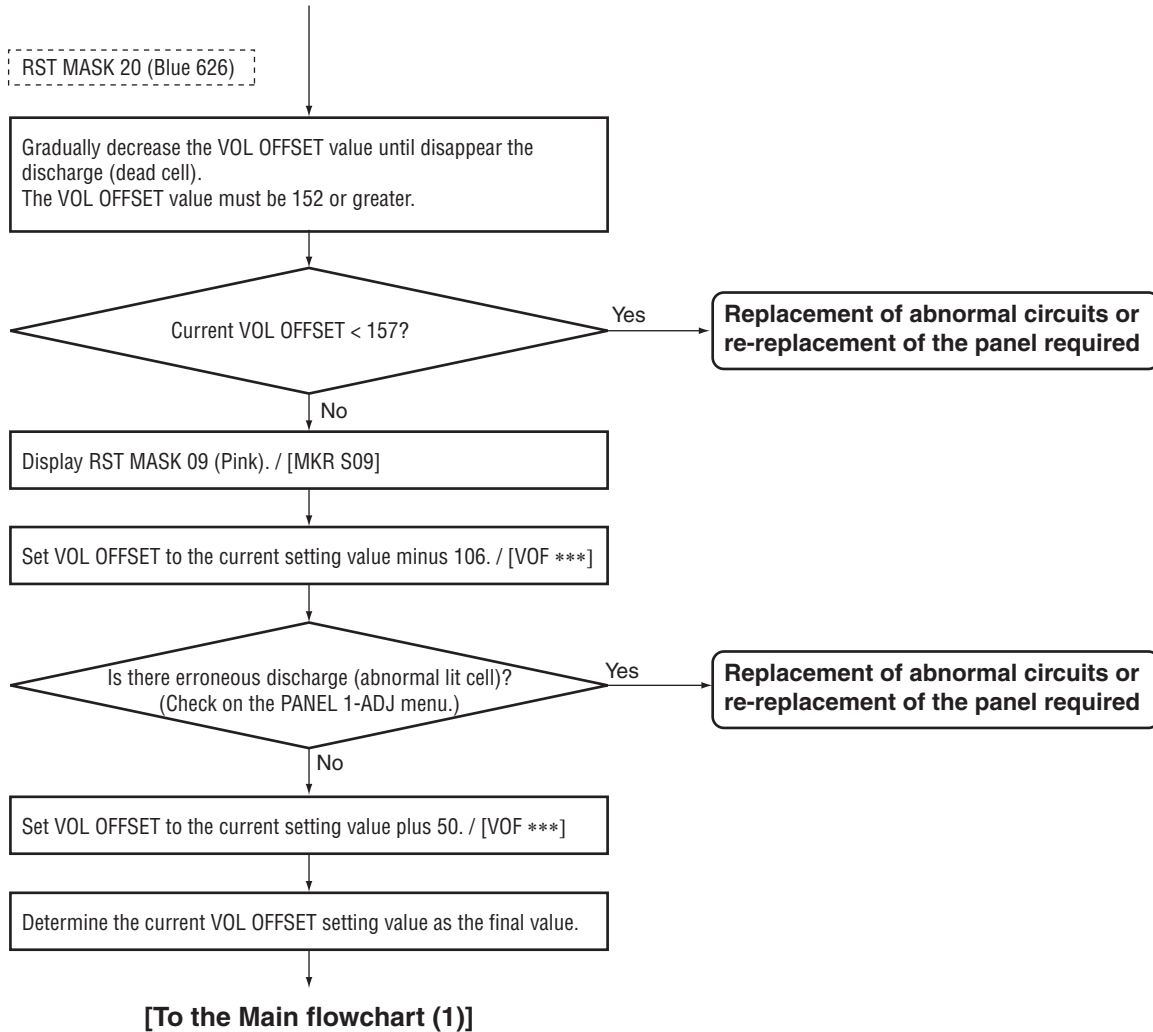
D

E

F

Recovery flowchart (1-4)...Changing the VOL OFFSET setting

[From the Main flowchart (1) / Recovery flowchart (1-3)]



A ■ Recovery flowchart (2-1)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2)]

RST MASK 21 (Red 1023+)

Gradually increase the VOL YNOFSA D value until disappear the discharge (dead cell).
The tentative setting value of VOL YNOFS3 D + current setting value of VOL YNOFSA D must be 255 or less.

Tentative setting value of VOL YNOFS3 D
+ current setting value of VOL YNOFSA D
> 254?

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 22 (Green 1023+). / [MKR S22]

[To the Recovery flowchart (2-2)]

C

D ■ Recovery flowchart (2-2)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2) / Recovery flowchart (2-1)]

RST MASK 22 (Green 1023+)

Gradually increase the VOL YNOFSA D value until disappear the discharge (dead cell).
The tentative setting value of VOL YNOFS3 D + current setting value of VOL YNOFSA D must be 255 or less.

Tentative setting value of VOL YNOFS3 D
+ current setting value of VOL YNOFSA D
> 254?

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

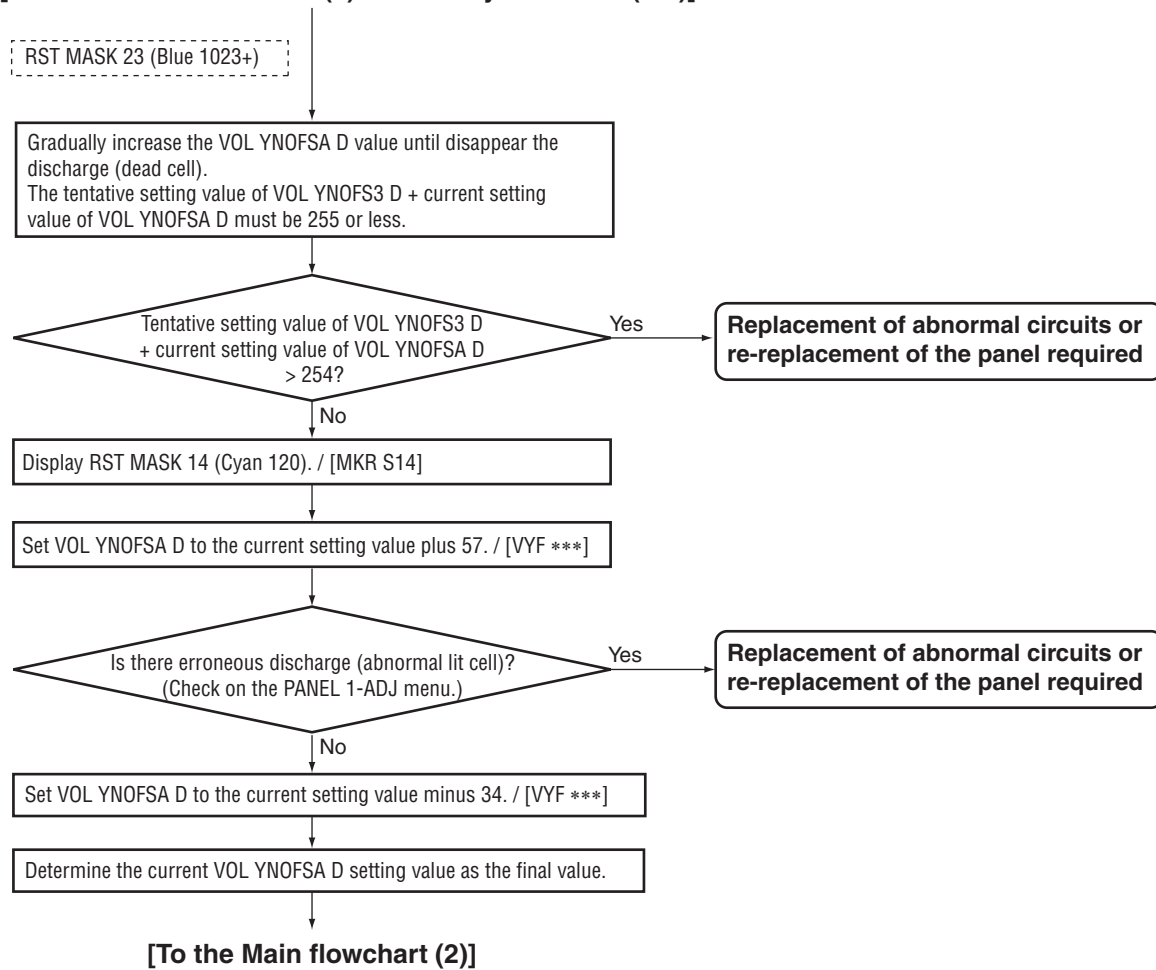
Display RST MASK 23 (Blue 1023+). / [MKR S23]

[To the Main flowchart (2-3)]

F

Recovery flowchart (2-3)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2) / Recovery flowchart (2-2)]



Recovery flowchart (2-4)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2)]

RST MASK 14 (Cyan 120)

Gradually decrease the VOL YNOFSA D value until disappear the discharge (lit cell).
The tentative setting value of VOL YNOFS3 D + current setting value of VOL YNOFSA D must be 266 or greater.

Tentative setting value of VOL YNOFS3 D + current setting value of VOL YNOFSA D < 268?

Yes

Replacement of abnormal circuits or re-replacement of the panel required

No

Display RST MASK 21 (Red 1023+). / [MKR S21]

Set VOL YNOFSA D to the current setting value minus 57. / [VYF ***]

Is there erroneous discharge (abnormal dead cell)?
(Check on the PANEL 1-ADJ menu.)

Yes

Replacement of abnormal circuits or re-replacement of the panel required

No

Display RST MASK 22 (Green 1023+). / [MKR S22]

Is there erroneous discharge (abnormal dead cell)?
(Check on the PANEL 1-ADJ menu.)

Yes

Replacement of abnormal circuits or re-replacement of the panel required

No

Display RST MASK 23 (Blue 1023+). / [MKR S23]

Is there erroneous discharge (abnormal dead cell)?
(Check on the PANEL 1-ADJ menu.)

Yes

Replacement of abnormal circuits or re-replacement of the panel required

No

Set VOL YNOFSA D to the current setting value plus 23. / [VYF ***]

Determine the current VOL YNOFSA D setting value as the final value.

[To the Main flowchart (2)]

8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED

Waveform adjustments required when replacing the following parts of the X DRIVE and Y DRIVE Assys.

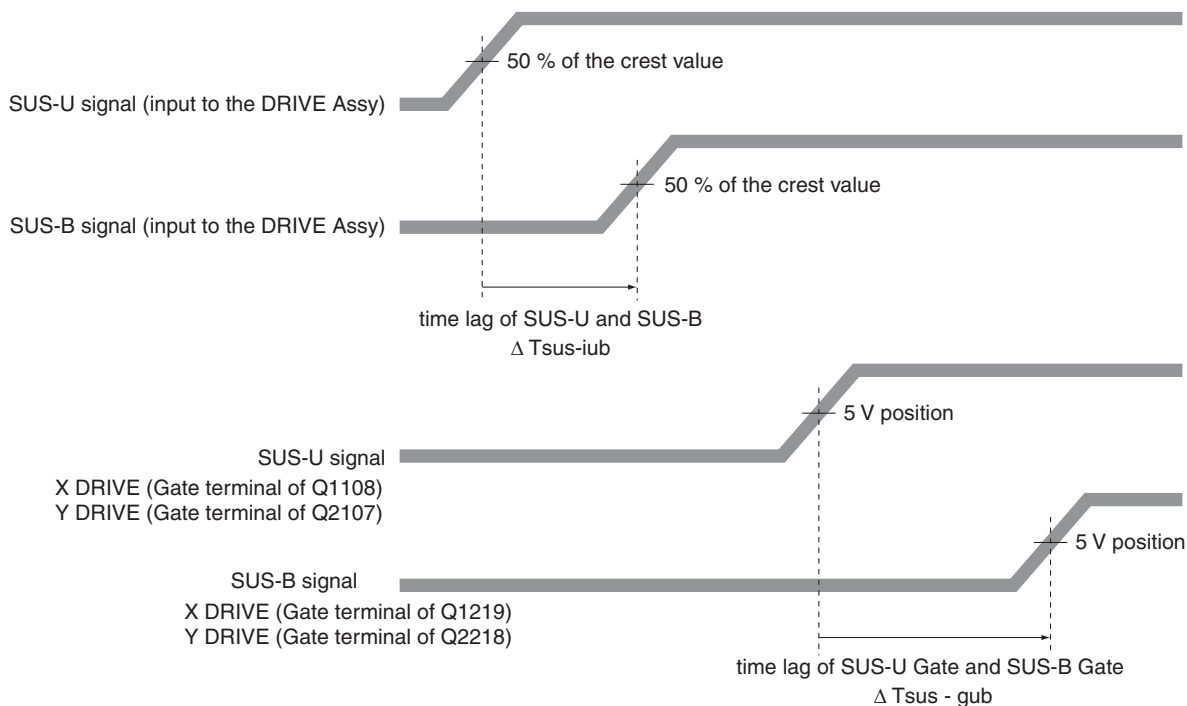
Assy Name	Ref No.	Part Name	Part Category	Remarks
X DRIVE Assy	IC1101	PS9818-1(P)	Photo Coupler	
	IC1104	TND307TD	FET Driver	
	IC1204	PS9818-2(P)	Photo Coupler	
	IC1209	TND307TD	FET Driver	
Y DRIVE Assy	IC2101	PS9818-1(P)	Photo Coupler	
	IC2103	TND307TD	FET Driver	
	IC2201	PS9818-1(P)	Photo Coupler	
	IC2203	TND307TD	FET Driver	

TIME LAG ADJUSTMENT OF THE CONTROL SIGNAL (SUS-B)

- Measure the time lag for the SUS-U signal to the SUS-B signal.
- Check the time lag for the SUS-B Gate signal to the SUS-U Gate signal.
Adjust the variable control so that the time lag of Gate becomes "time lag of input signal + $\alpha \pm 5$ nsec."

Note:

- Be sure to set the Drive to OFF for adjustment.
- For details on measuring points of waveform, see the figure below.



Time lag of SUS-U Gate and SUS-B Gate : $\Delta T_{sus-gub}$

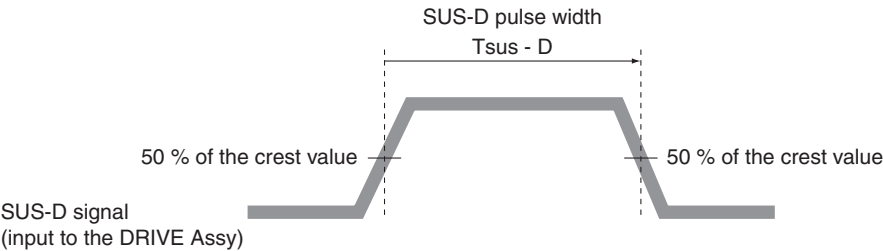
Adjust so that " $\Delta T_{sus-gub} = \Delta T_{sus-iub} + \alpha \pm 5$ nsec," using the variable controls shown in the table below:

Assy	VR	Value of α
X DRIVE Assy	VR1002	60 nsec
Y DRIVE Assy	VR2002	60 nsec

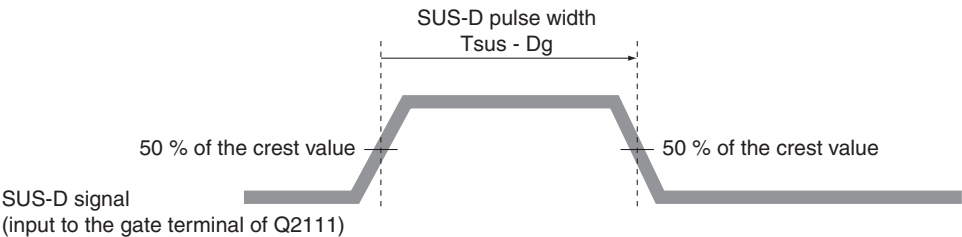
A ■ DELAY ADJUSTMENT OF THE CONTROL SIGNAL (SUS-D)

- ① Measure the pulse width of the SUS-D signal.
 - ② Check the pulse width of the SUS-D input signal (gate terminal of Q2111).
Adjust the variable control so that the pulse width of the SUS-D input signal (gate terminal of Q2111) becomes the same pulse width ± 5 nsec as the SUS-D signal.
- **Note:** • For details on measuring points of waveform, see the figure below.

B



C



D

SUS-D pulse width: $T_{sus} - Dg$
Adjust so that " $T_{sus} - Dg = T_{sus} - D \pm 5$ nsec," using the variable control shown in the table below:

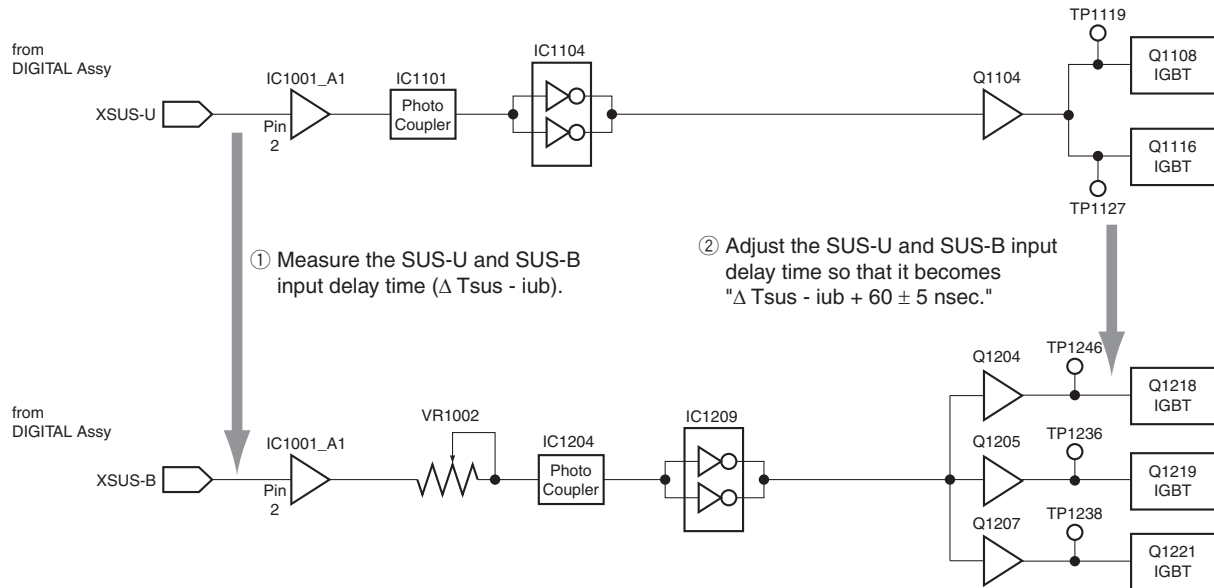
Assy	VR
Y DRIVE Assy	VR2001

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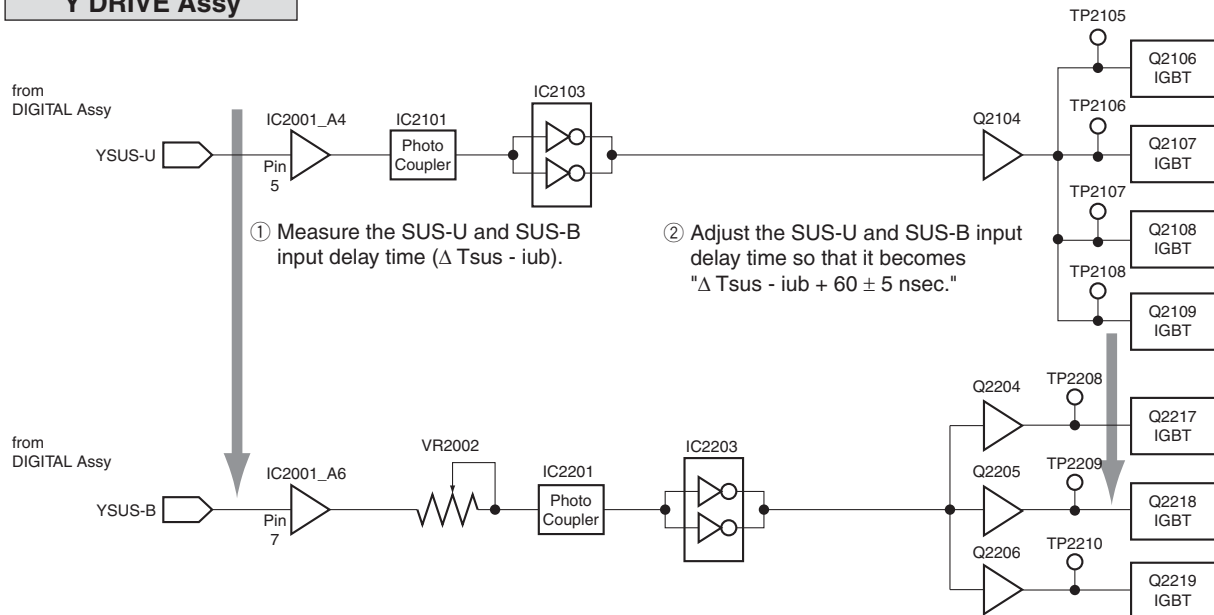
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SUS-B ADJUSTMENT

X DRIVE Assy

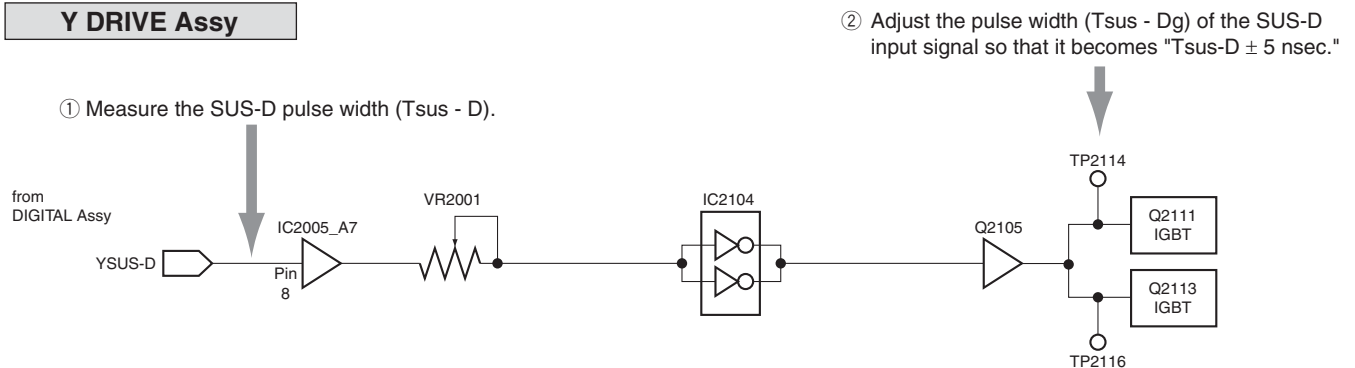


Y DRIVE Assy



SUS-D ADJUSTMENT

Y DRIVE Assy



■1■2■3■4■

8.6 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED

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Explanation

To correct differences in IC output levels and signal levels upon AD conversion, adjustment is performed throughout the path. Therefore, if any of the following devices is replaced, the entire adjustment must be performed again.

■

IC8001	AV_SW	R2S11006FT
IC8101	RGB_SW	R2S11001FT
IC4702	VDEC	CM0048AF
IC4801	ADC	AD9985KSTZ-110

B■

Adjustment Procedure

Perform the "AUTO ADJUSTMENT" on the "6.2 [4] INITIALIZE".

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(1) PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
⚠	1	Power Cable (2 m)	ADG1214		13	Cleaning Caution	See Contrast table (2)
⚠	2	Power Cable (2 m)	See Contrast table (2)		14	Block Diagram (509)	See Contrast table (2)
	3	Remote Control Unit	AXD1564	NSP	15	Warranty Card EU	See Contrast table (2)
	4	Battery Cover (Black)	AZN2784		16	Vinyl Bag	AHG1310
NSP	5	Dry Cell Battery (R6, AA)	VEM1031		17	Vinyl Bag	AHG1337
⚠	6	Ferrite Core	ATX1039	NSP	18	Vinyl Bag	AHG1340
	7	Binder Assy	AEC2158		19	Power Cord Lid (5090)	See Contrast table (2)
	8	Cleaning Cloth	AED1285		20	Pad (509 T-L EU)	See Contrast table (2)
	9	Operating Instructions (English / French / German)	See Contrast table (2)		21	Pad (509 T-R EU)	See Contrast table (2)
					22	Pad (509 B-L EU)	See Contrast table (2)
	10	Operating Instructions (Italian / Dutch / Spanish / Russian)	See Contrast table (2)		23	Pad (509 B-R EU)	See Contrast table (2)
	11	Operating Instructions (Russian)	See Contrast table (2)		24	Upper Carton (5090)	See Contrast table (2)
	12	Caution Card	See Contrast table (2)		25	Under Carton (5090)	See Contrast table (2)
					26	Mirror Mat	AHG1284
					27	HD Sheet	See Contrast table (2)
					28	Carton Board (509)	See Contrast table (2)

(2) CONTRAST TABLE

PDP-LX5090/WYSIXK5 and WYS5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX5090 /WYSIXK5	PDP-LX5090 /WYS5
⚠	2	Power Cable (2 m)	ADG1223	Not used
	9	Operating Instructions (English / French / German)	ARE1492	Not used
	10	Operating Instructions (Italian / Dutch / Spanish / Russian)	ARC1606	Not used
	11	Operating Instructions (Russian)	Not used	ARC1618
	12	Caution Card	ARM1310	ARM1232
	13	Cleaning Caution PTK	ARM1311	Not used
	13	Cleaning Caution (11L)	Not used	ARM1283
	14	Block Diagram (509)	ARY1210	Not used
NSP	15	Warranty Card EU	ARY7112	ARY7110
	19	Power Cord Lid (5090)	AHC1113	AHC1114
	20	Pad (509 T-L EU)	AHA2714	AHA2727
	21	Pad (509 T-R EU)	AHA2715	AHA2728
	22	Pad (509 B-L EU)	AHA2716	AHA2729
	23	Pad (509 B-R EU)	AHA2726	AHA2730
	24	Upper Carton (5090)	AHD3669	AHD3670
	25	Under Carton (5090)	AHD3672	AHD3673
	27	HD Sheet	AHG1416	Not used
	28	Carton Board (509)	Not used	AHB1303

9.2 REAR SECTION

A

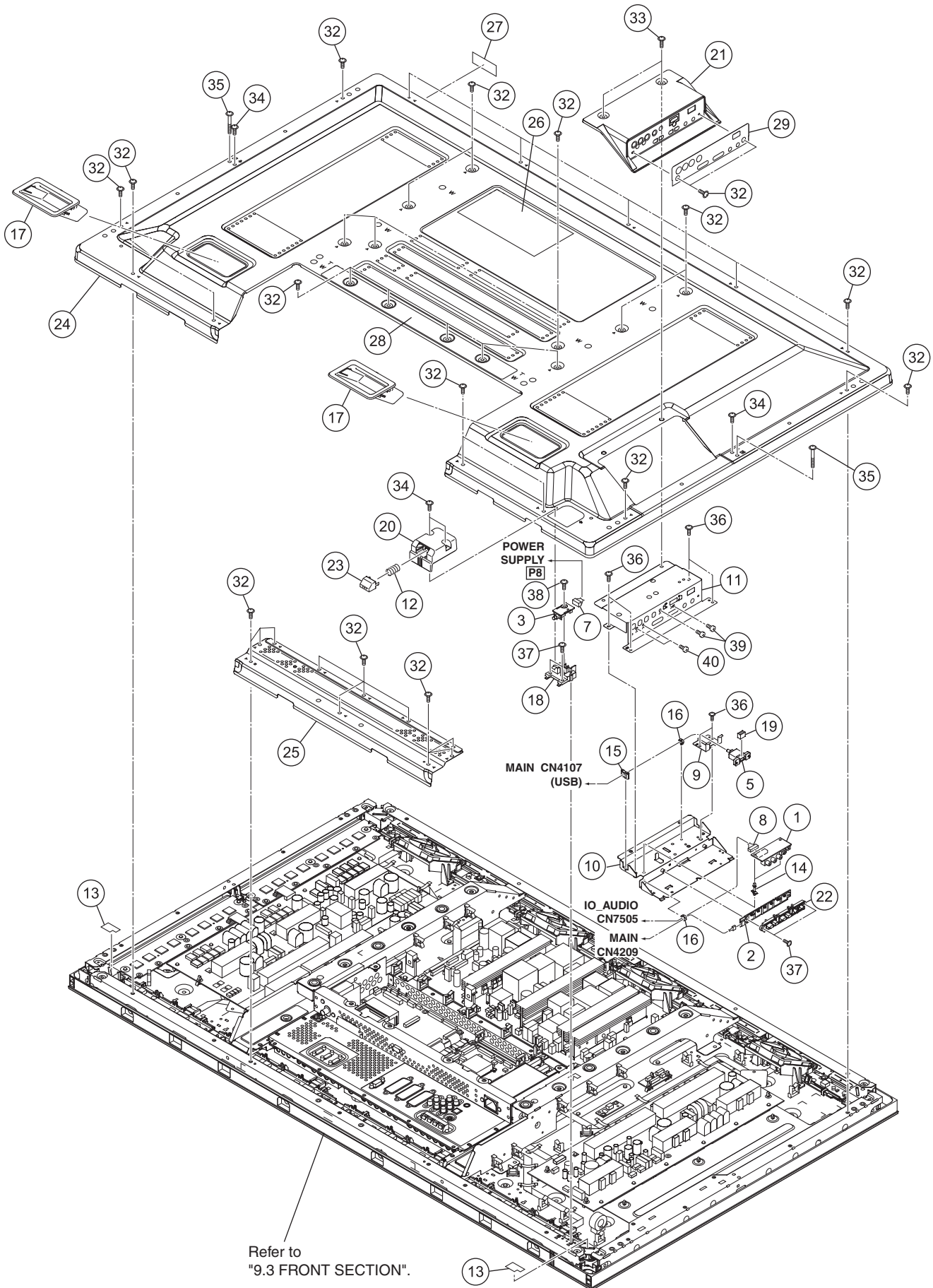
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(1) REAR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	SIDE IO Assy	AWW1358	21	Side Input Cover	AMR3754
2	SIDE KEY Assy	AWW1361	22	Operation Button	AAC1569
3	POWER SW Assy	AWW1366	23	Power Button (508F)	AAD4152
4	•••••		24	Rear Case (509)	ANE1671
5	USB Cable (J301)(120 cm)	ADF1034	25	Under Cover (509)	ANE1672
6	•••••		NSP 26	Name Label (LX5090)	See Contrast table (2)
7	3P Housing Wire (J103)	ADX3630	27	Serial Sheet	AAX3143
8	11P Housing Wire (J118)	ADX3644	28	Label A (ES)	AAX3568
9	USB Holder	ANG3134	29	Side Label (EU)	AAK2932
10	Side Input Base	ANG3215	30	•••••	
11	Side Input Shield	ANG3216	31	•••••	
12	Coil Spring	ABH1125	32	Screw (M3 x 6)	ABA1377
13	Sensor Cushion B (428)	AEB1486	33	Screw (M3 x 10)	ABA1378
NSP 14	PCB Spacer	AEC1084	34	Screw (3 x 8 P)	ABA1379
15	Edge Saddle	AEC1571	35	Screw (3 x 25 P)	ABA1380
16	Mini Clamp	AEC1971	36	Screw	AMZ30P060FTB
17	Inner Grip Assy	See Contrast table (2)	37	Screw	AMZ30P080FTB
18	Power Button Support	AMR3763	38	Screw	APZ30P080FTB
⚠ 19	USB Gasket	ANK1962	39	Screw	BMZ30P080FTB
20	Power Button Case	AAK2927	40	Screw	BPZ30P080FTB

(2) CONTRAST TABLE

PDP-LX5090/WYSIXK5 and WYS5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX5090 /WYSIXK5	PDP-LX5090 /WYS5
	17	Inner Grip Assy	AMR3693	AMR3434
NSP	26	Name Label (LX5090)	AAL3033	AAL3035

1 2 3 4

9.3 FRONT SECTION

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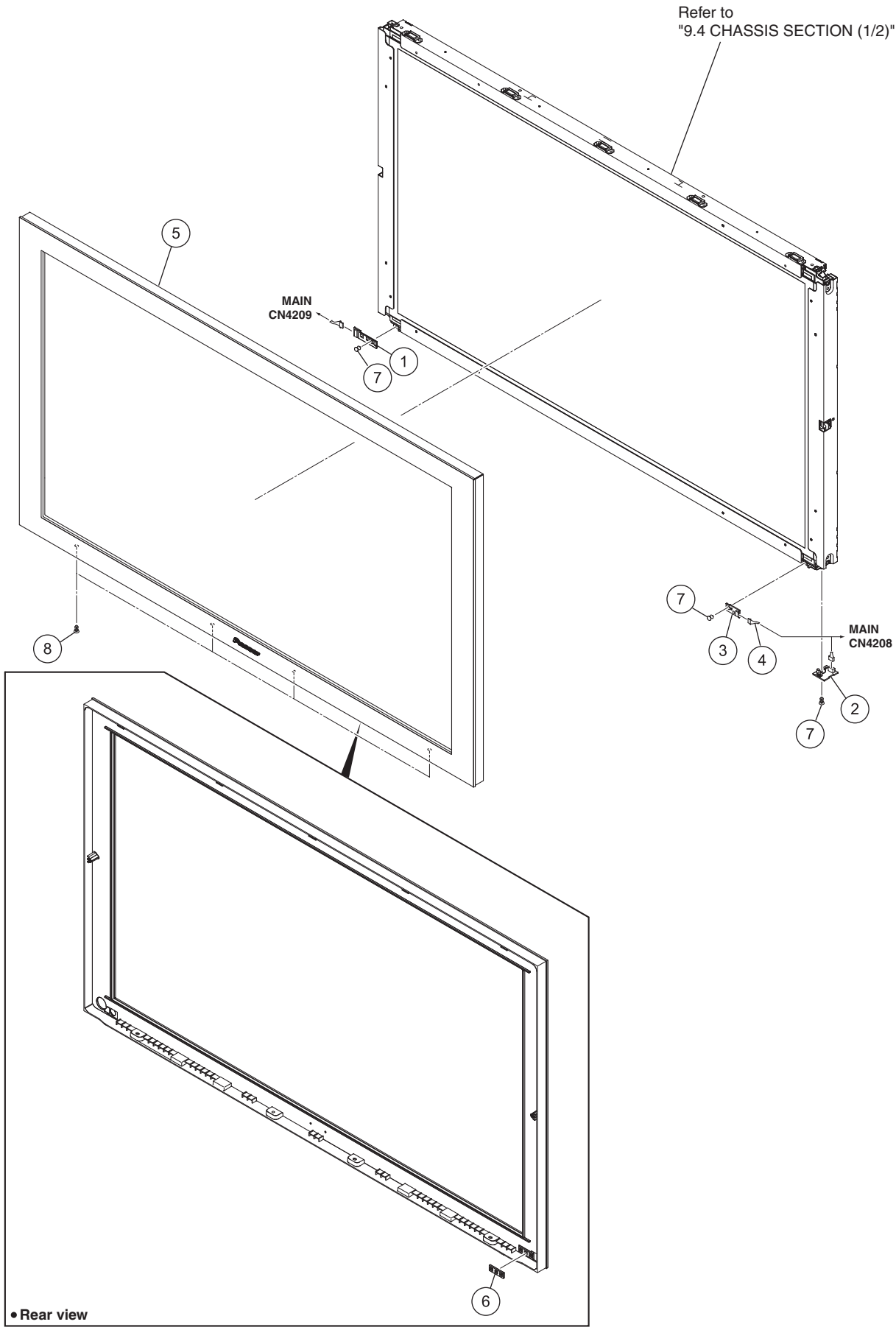
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FRONT SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	LED Assy	AWW1362
2	IR Assy	AWW1363
3	RLS Assy	AWW1365
4	7/3/3P Housing Wire (J117)	ADX3643
5	Front Bezel (509TVE)	AMB3087
6	Blind Cushion (508F)	AEB1479
7	Nylon Rivet	AEC1671
8	Rivet (Plastic)	AEC1877

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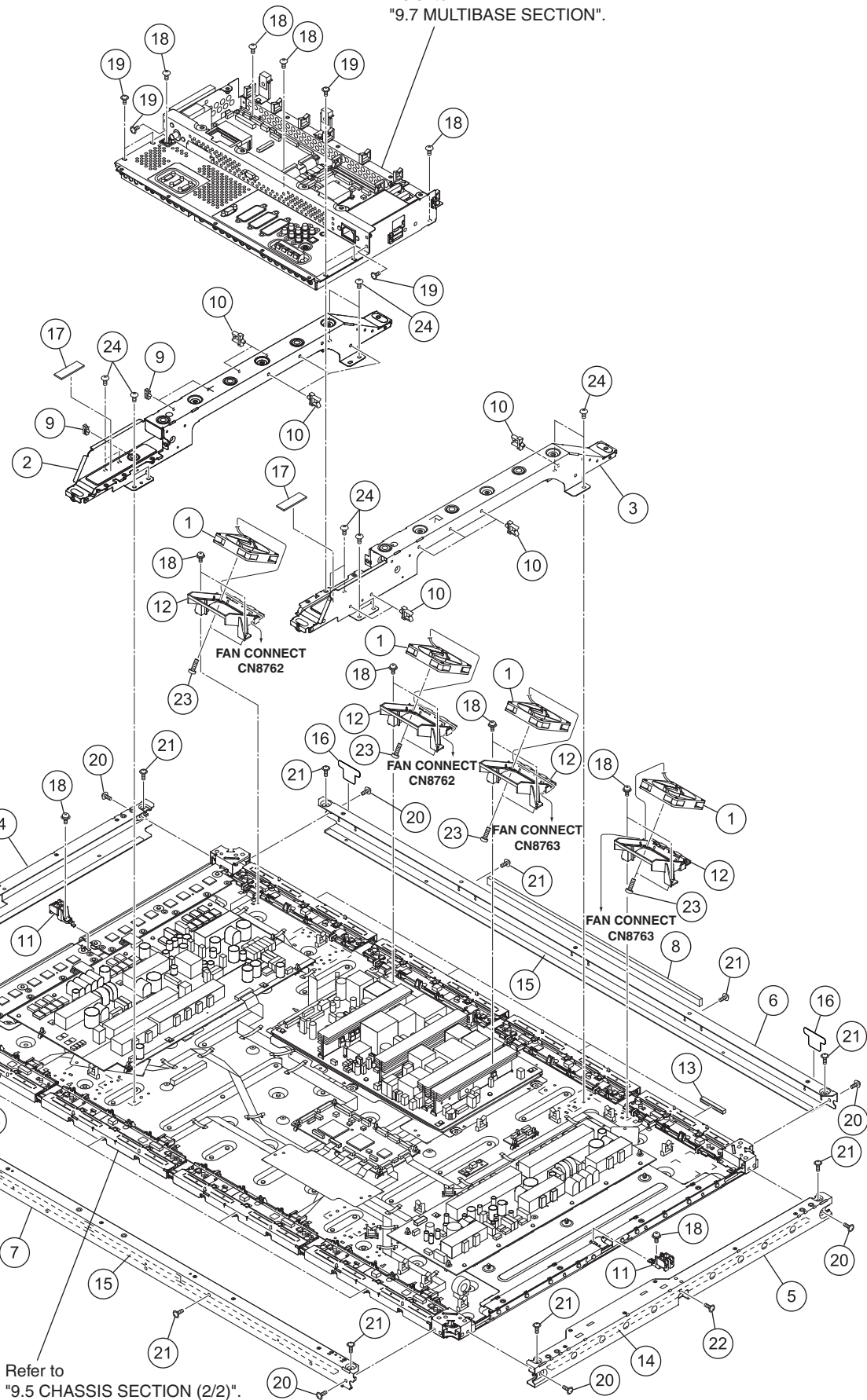
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9.4 CHASSIS SECTION (1/2)



Cleaning paper :
GED-008

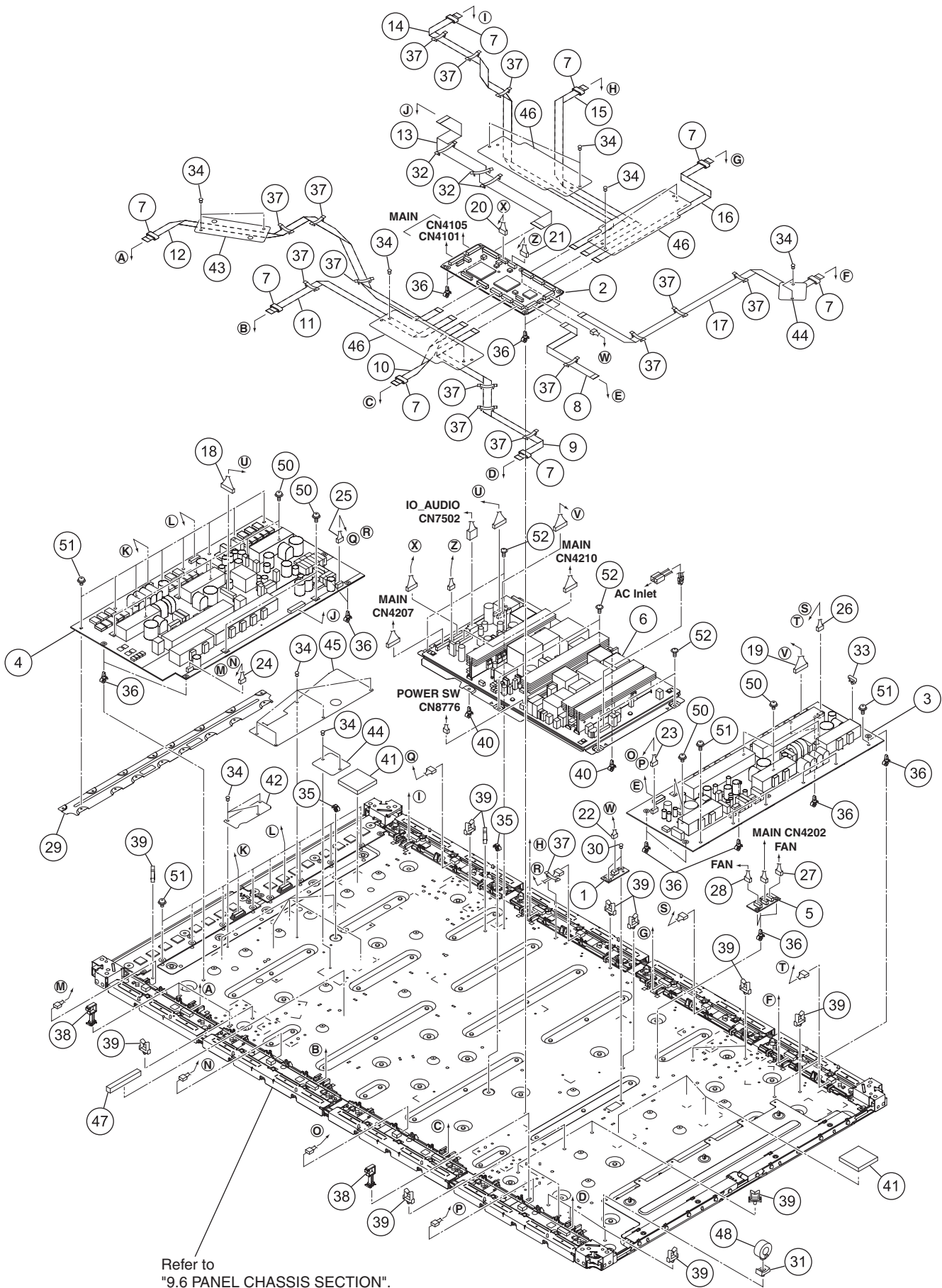
Refer to
"9.7 MULTIBASE SECTION".



CHASSIS SECTION (1/2) PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
⚠ 1	DC FAN Motor 80 x 15L	AXM1065
2	Sub Frame L Assy (50)	ANA2137
3	Sub Frame R Assy (50)	ANA2140
⚠ 4	F. Chassis VL Assy 50	ANA2142
⚠ 5	F. Chassis VR Assy 50	ANA2151
⚠ 6	F. Chassis HT Assy 50	ANA2144
⚠ 7	F. Chassis HB 50	ANA2188
8	Waterproof Cushion	AEB1495
9	Wire Clip	AEC1948
10	Reuse Wire Saddle	AEC2134
11	Support Bracket	AMR3762
12	FAN Bracket 80	AMR3787
⚠ 13	Gasket ADH-FCH	ANK1850
⚠ 14	Front Gasket V50	ANK1963
⚠ 15	Front Gasket H50	ANK1964
16	FC Gate Sheet	AMR3906
17	Stand Cushion	AED1340
18	Screw	ABA1351
19	Screw (M3 x 6)	ABA1377
20	Screw	ABZ30P080FTC
21	Screw	AMZ30P060FTB
22	Screw	APZ30P080FTB
23	Screw	PPZ50P100FTB
24	Screw	TBZ40P060FTC

9.5 CHASSIS SECTION (2/2)



CHASSIS SECTION (2/2) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
1	SENSOR Assy	AWW1340	46	FFC Sheet	AMR3893	
2	50F DIGITAL Assy	AWW1347	⚠ 47	Gasket (10 x 10 x 80)	ANK1974	A
3	50F X DRIVE Assy	AWV2546	⚠ 48	Ferrite Core (L1)	ATX1044	
4	50F Y DRIVE Assy	AWV2547	49	•••••		
5	FAN CONNECT Assy	AWW1364	50	Screw	ABA1351	
⚠ 6	POWER SUPPLY Unit	AXY1200	51	Screw	ABA1364	
⚠ 7	Ferrite Core (F1 - F8)	ATX1072	52	Screw	ABZ30P060FTB	■
8	Flexible Cable (J201)	ADD1540				
9	Flexible Cable (J202)	ADD1541				
10	Flexible Cable (J203)	ADD1542				
11	Flexible Cable (J204)	ADD1543				B
12	Flexible Cable (J205)	ADD1544				
13	Flexible Cable (J206)	ADD1545				
14	Flexible Cable (J207)	ADD1546				
15	Flexible Cable (J208)	ADD1547				
16	Flexible Cable (J209)	ADD1548				■
17	Flexible Cable (J210)	ADD1549				
18	12P/11P Housing Wire (J101)	ADX3628				
19	11P Housing Wire (J102)	ADX3629				
20	10P Housing Wire (J106)	ADX3632				C
21	6P Housing Wire (J107)	ADX3633				
22	5P Housing Wire (J108)	ADX3634				
23	5/3/3P Housing Wire (J112)	ADX3638				
24	5/3/3P Housing Wire (J113)	ADX3639				
25	5/3/3P Housing Wire (J114)	ADX3640				■
26	5/3/3P Housing Wire (J115)	ADX3641				
27	6/3/3P Housing Wire (J120)	ADX3646				
28	7/3/3P Housing Wire (J121)	ADX3647				
29	Plate Y (509)	ANG3127				D
30	Nylon Rivet	AEC1671				
31	Ferrite Core Holder	AEC1818				
32	Flat Clamp	AEC1879				
33	Wire Clip	AEC1948				■
34	Nylon Rivet	AEC2089				
35	Reuse Card Spacer	AEC2117				
36	PCB Spacer (Reuse)	AEC2122				
37	Flat Clamp	AEC2132				
38	Reuse Fastener	AEC2133				E
39	Reuse Wire Saddle	AEC2134				
40	Reuse PCB Spacer 4.5	AEC2148				
41	Drive Sheet	AEH1155				
42	Y Drive Sheet B	AMR3769				■
43	Y Drive Sheet C	AMR3783				
44	FAN Sheet	AMR3786				
45	Y Drive Sheet A (M)	AMR3881				F

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9.6 PANEL CHASSIS SECTION

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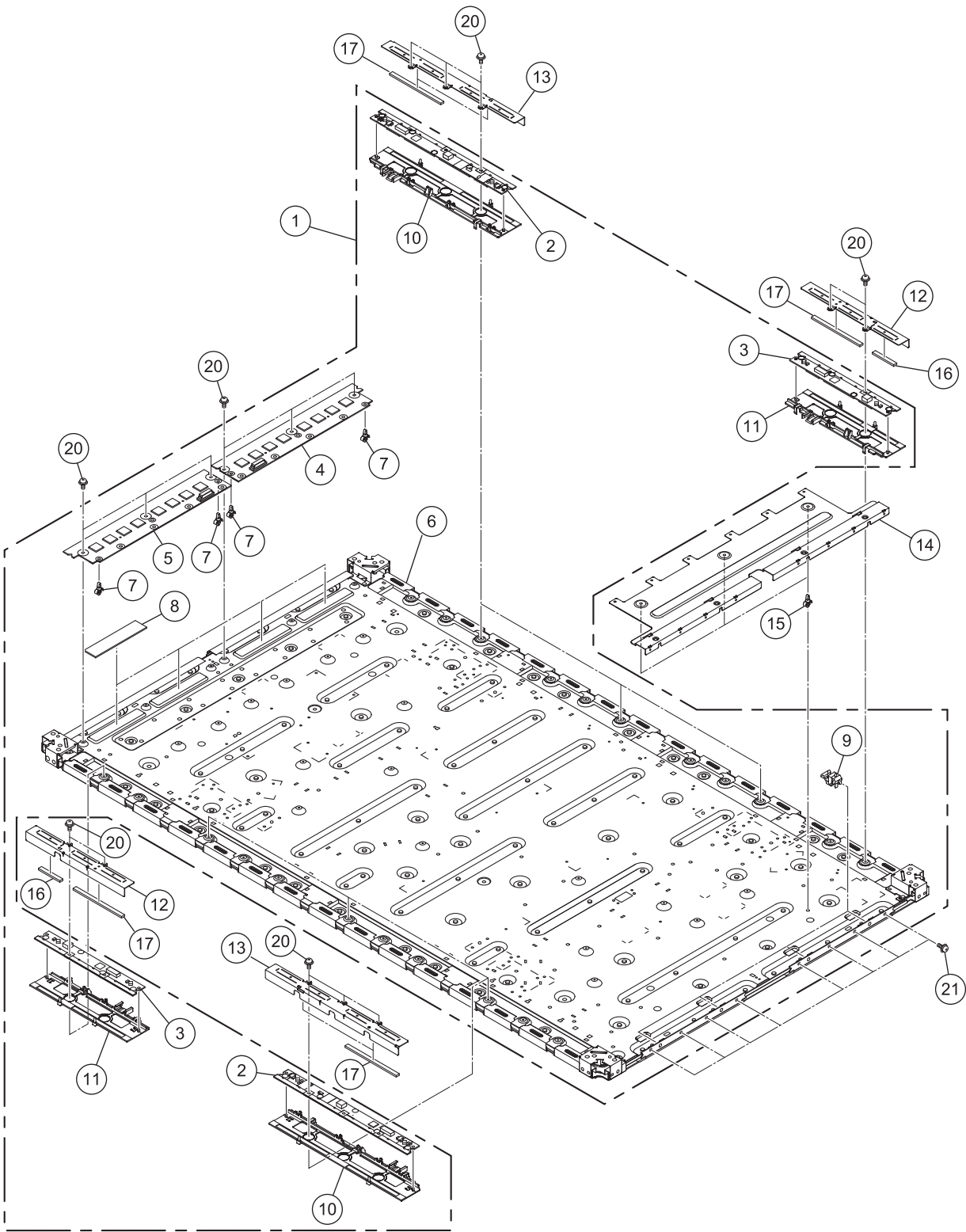
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PANEL CHASSIS SECTION PARTS LIST

Mark	No.	Description	Part No.	
NSP	1	P. Chassis (509FE) Assy	AWU1297	
NSP	2	50F ADDRESS L Assy	AWW1348	A
NSP	3	50F ADDRESS S Assy	AWW1349	
NSP	4	50F SCAN A Assy	AWW1350	
NSP	5	50F SCAN B Assy	AWW1351	
NSP	6	P. Panel (50FE) Assy	AWU1298	
	7	Reuse PCB Spacer 4.5	AEC2148	■
	8	Heat Radiation Sheet	AEH1134	
	9	Plate Holder	AMR3757	
	10	Holder L Assy (509)	AMR3775	
	11	Holder S Assy (509)	AMR3776	B
	12	Address Plate S (509)	ANG3129	
	13	Address Plate L (509)	ANG3130	
	14	Plate X (509)	ANG3128	
	15	PCB Spacer (Reuse)	AEC2122	■
	16	Address Silicon TS	AEH1160	
	17	Address Silicon TL	AEH1161	
	18		
	19		
	20	Screw	ABA1351	C
	21	Screw	ABA1364	
				■
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9.7 MULTIBASE SECTION

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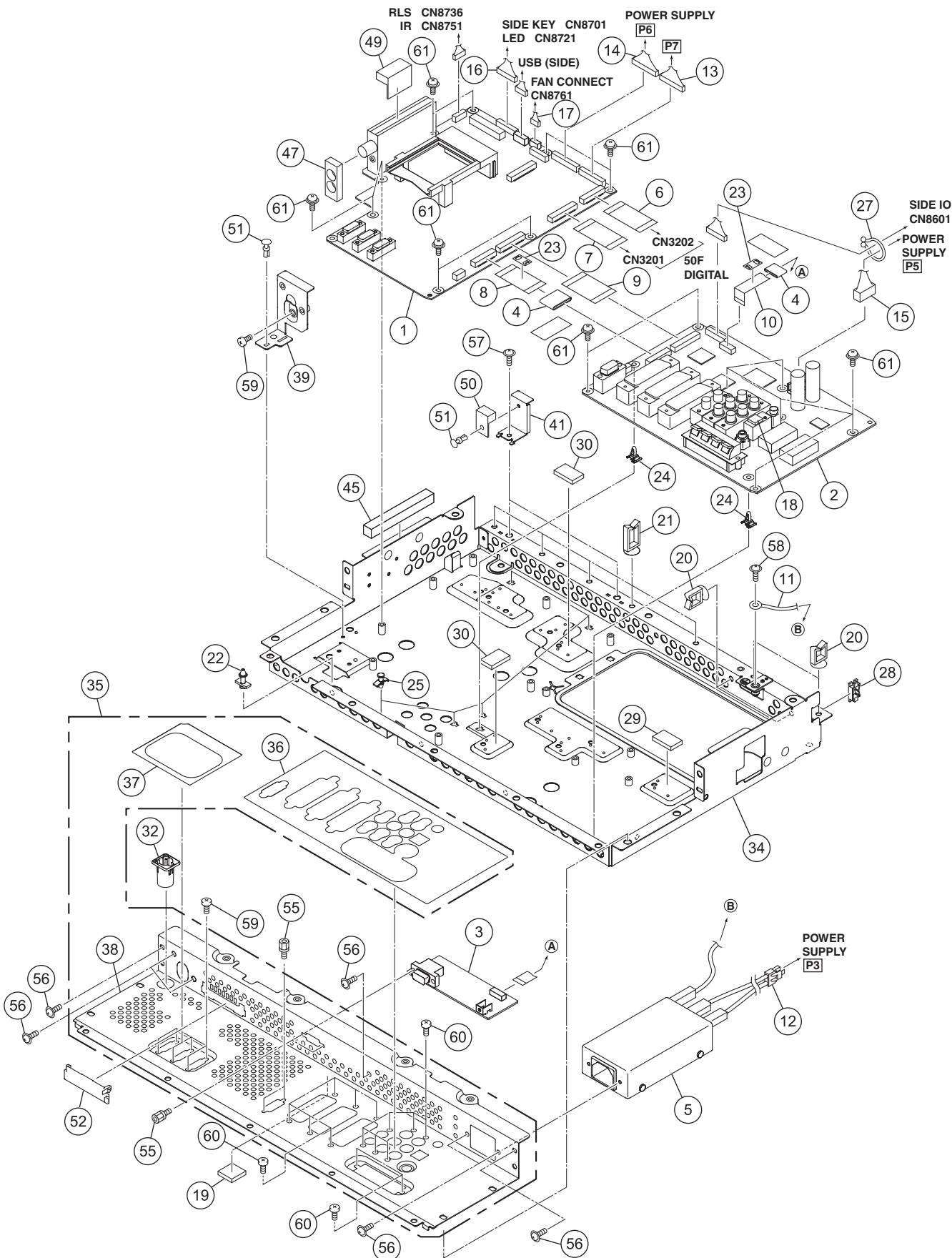
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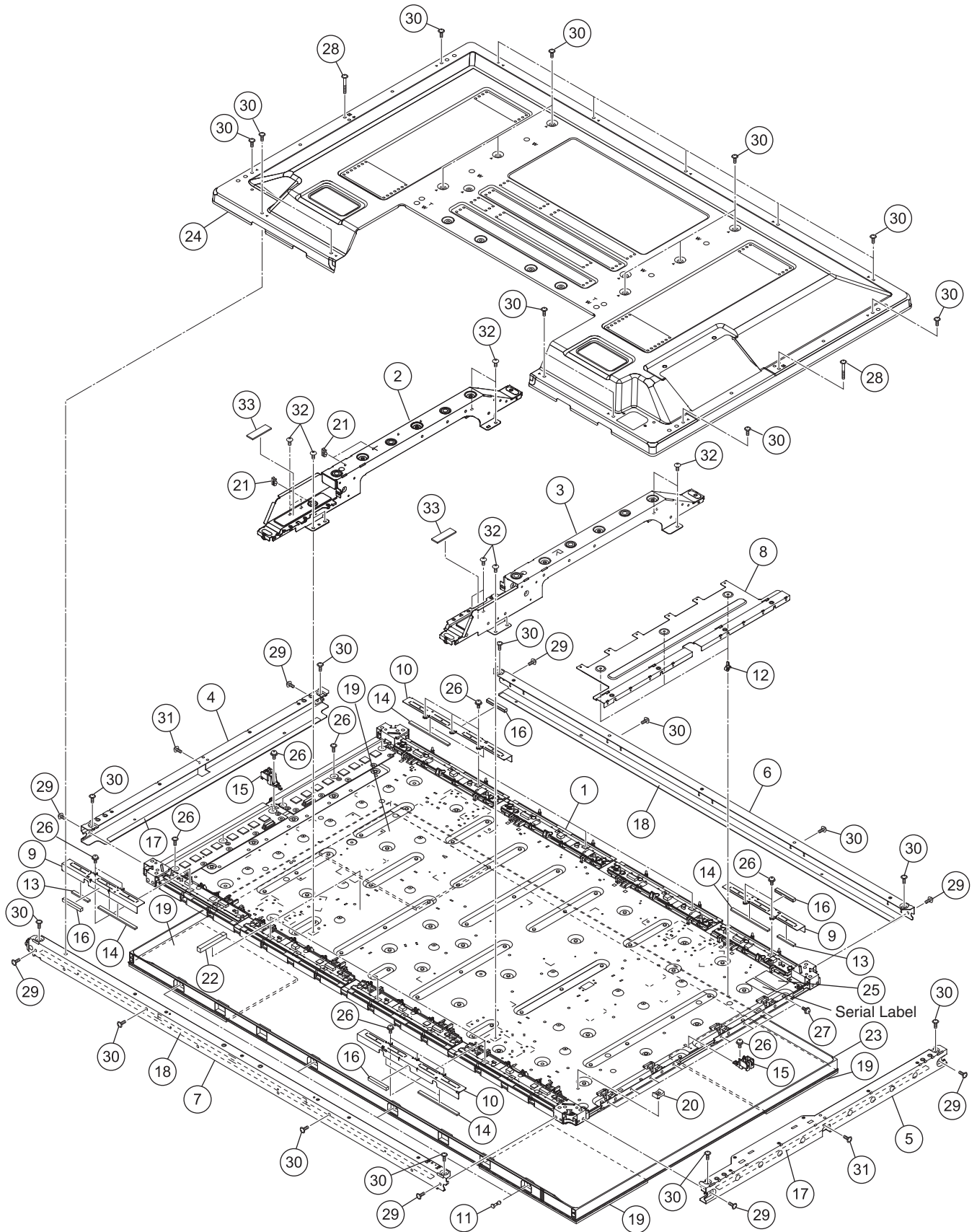
MULTIBASE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
⚠ 1	MAIN Assy	AWV2555	⚠ 49	Gasket (ES)	ANK1978	
2	IO_AUDIO Assy	AWW1354	⚠ 50	Gasket (10 x 8 x 15)	ANK1982	A
3	PC Assy	AWW1359	51	Nylon Rivet	AEC1671	
⚠ 4	Ferrite Core (F11, F12)	ATX1048	52	Card Lid	AMR3772	
⚠ 5	AC Inlet (CN1)	AKP1336	53	•••••		
6	Flexible Cable (J211)	ADD1533	54	•••••		
7	Flexible Cable (J212)	ADD1534	55	Hexagon Headed Screw	ABA1382	
8	Flexible Cable (J213)	ADD1535	56	Screw (M3 x 6)	ABA1377	
9	Flexible Cable (J214)	ADD1536	57	Screw	AMZ30P060FTB	
10	Flexible Cable (J215)	ADD1537	58	Screw	BMP40P080FSN	
⚠ 11	Housing Wire (J105)	ADX3608	59	Screw	BMZ30P060FTB	B
⚠ 12	Housing Wire (J104)	ADX3631	60	Screw	BPZ30P080FTB	
13	14P Housing Wire (J109)	ADX3635	61	Screw	PMB30P060FNI	
14	15P Housing Wire (J110)	ADX3636				
15	5P Housing Wire (J111)	ADX3637				
16	10/6/4P Housing Wire (J116)	ADX3642				
17	4P Housing Wire (J119)	ADX3645				
18	Rubber Sheet	AEB1498				
19	Cushion	AEB1499				
20	Wire Saddle	AEC1745				C
21	Wire Saddle	AEC1797				
22	Circuit Board Spacer	AEC1872				
23	Ferrite Stopper	AEC1981				
24	Reuse PCB Spacer 4.5	AEC2136 or AEC2161				
25	PCB Spacer	AEC2146				
26	•••••					
27	Clamp	AEC2156				
28	Edge Holder	AEC2159				
29	Silicon Sheet MTB A	AEH1174				D
30	Silicon Sheet MTB B	AEH1175				
31	•••••					
32	Sleeve	AMR3771				
33	•••••					
34	MTB Assy	ANA2150				
35	1..T Panel ES Assy	ANC2470				
36	2..Label B1 (ES)	AAX3573				
37	2..Label B2 (ES)	AAX3584				
38	2..Terminal Panel (ES)	ANC2465				E
39	Tuner Panel (ES)	ANG3161				
40	•••••					
41	Earth BKT A	ANG3182				
42	•••••					
43	•••••					
44	•••••					
⚠ 45	Gasket (10 x 10 x 80)	ANK1974				
46	•••••					
⚠ 47	Gasket (E)	ANK1981				F
48	•••••					

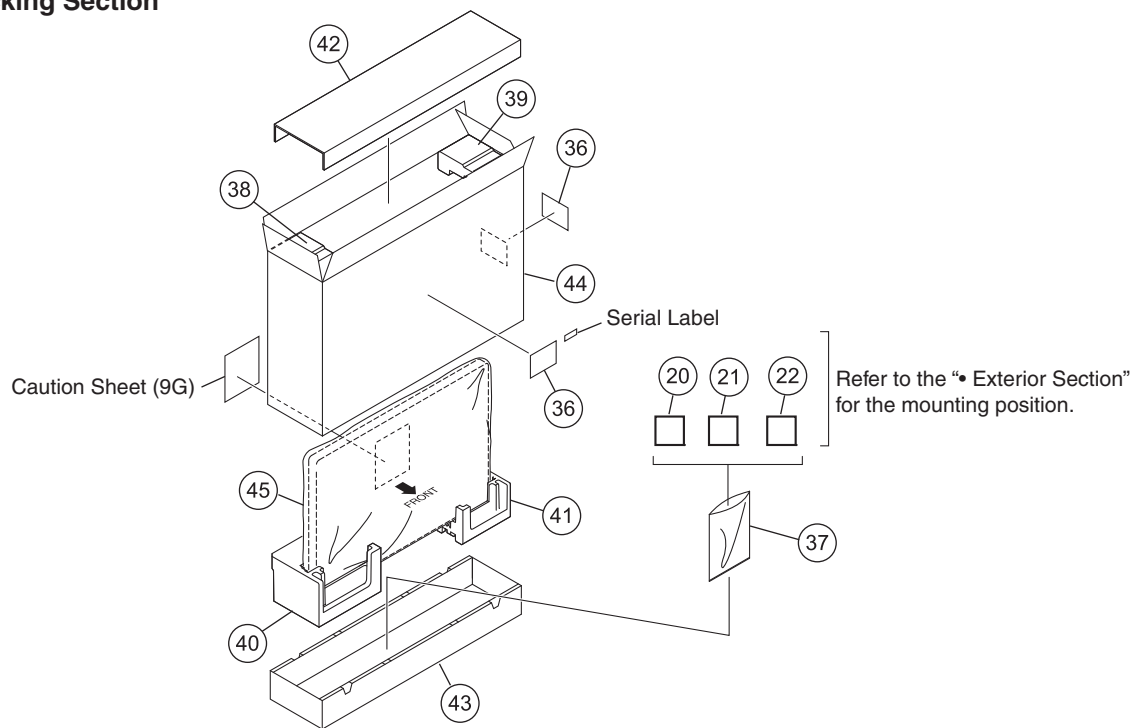
9.8 PDP SERVICE ASSY

PDP SERVICE ASSY 509FE : AWU1342

● Exterior Section



● Packing Section



PDP SERVICE ASSY PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	P. Chassis (509FE) Assy	AWU1297	26	Screw	ABA1351
2	Sub Frame L Assy (50)	ANA2137	27	Screw	ABA1364
3	Sub Frame R Assy (50)	ANA2140	28	Screw (3 x 25 P)	ABA1380
4	F. Chassis VL Assy 50	ANA2142	29	Screw	ABZ30P080FTC
5	F. Chassis VR Assy 50	ANA2151	30	Screw	AMZ30P060FTB
6	F. Chassis HT Assy 50	ANA2144	31	Screw	APZ30P080FTB
7	F. Chassis HB 50	ANA2188	32	Screw	TBZ40P060FTC
8	Plate X (509)	ANG3128	33	Stand Cushion	AED1340
9	Address Plate S (509)	ANG3129	34	•••••	
10	Address Plate L (509)	ANG3130	35	•••••	
11	Rivet (Plastic)	AEC1877	36	Caution Label	AAX3031
12	PCB Spacer (Reuse)	AEC2122	37	Vinyl Bag	AHG1338
13	Address Silicon TS	AEH1160	38	Pad (509 T-L EU)	AHA2727
14	Address Silicon TL	AEH1161	39	Pad (509 T-R EU)	AHA2728
15	Support Bracket	AMR3762	40	Pad (509 B-L EU)	AHA2729
16	Gasket ADH-FCH	ANK1850	41	Pad (509 B-R EU)	AHA2730
17	Front Gasket V50	ANK1963	42	Carton Board (509)	AHB1303
18	Front Gasket H50	ANK1964	43	Under Carton (5090)	AHD3673
19	Service Pad	AEC2105	44	Upper Carton (509F-SV)	AHD3716
20	Ferrite Core Holder	AEC1818	45	Protect Sheet	AHG1331
21	Wire Clip	AEC1948			
22	Gasket (10 x 10 x 80)	ANK1974			
NSP 23	Front Service Assy (509)	AMB3103			
24	Rear Case (509)	ANE1671			
NSP 25	Drive Voltage Label	ARW1097			

Service Manual

ORDER NO.
ARP3492

FLAT SCREEN TV

PDP-LX5090H

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-LX5090H	YSIXK5	AC 220 V to 240 V	
PDP-LX5090H	WYS5	AC 220 V to 240 V	

This service manual should be used together with the following manual(s).

Model No.	Order No.	Remarks
PDP-LX5090	ARP3480	EXPLODED VIEWS, BLOCK DIAGRAM, ADJUSTMENT, etc.

For SPECIFICATIONS and PANEL FACILITIES, refer to the operating instructions.

The electrical configurations of the PDP-LX5090H are the same as those of the PDP-LX5090, except for those for part of the MTB block (mainly the MAIN Assy).

As for mechanical configurations, most of the components are common between these two models, except for those for the MTB block and printing, as well as connectors.

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A

B

C

D

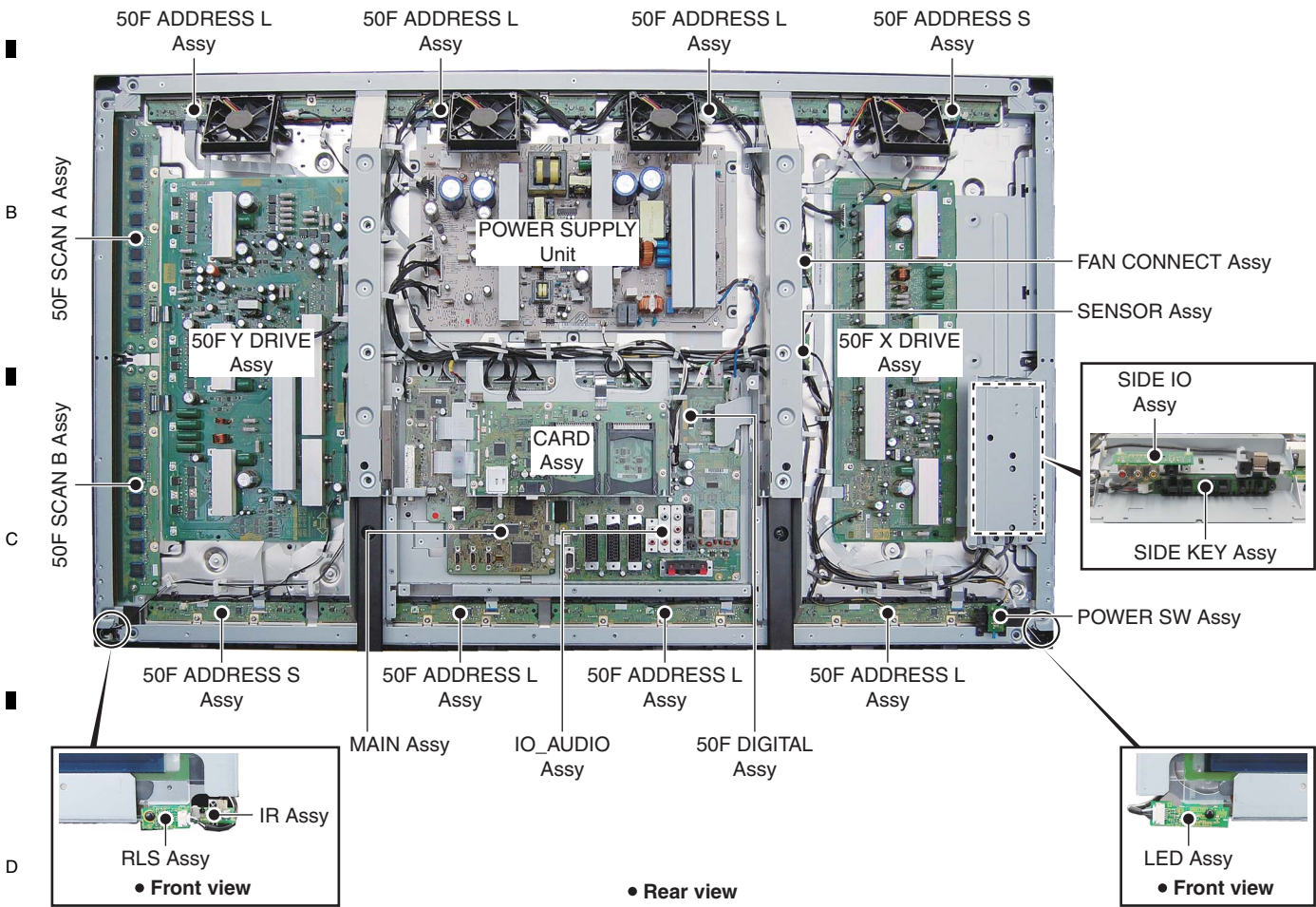
E

F

1. BASIC ITEMS FOR SERVICE

1.1 PCB LOCATIONS

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.



NOTES:

- Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Mark No.	Description	Part No.	Mark No.	Description	Part No.
LIST OF ASSEMBLIES					
NSP	50F ADDRESS L ASSY	AWW1348	⚠	* MAIN ASSY	AWV2556
NSP	50F ADDRESS S ASSY	AWW1349		IO_AUDIO ASSY	AWW1354
NSP	50F SCAN A ASSY	AWW1350		SIDE IO ASSY	AWW1358
	└ IC2801 - IC2808	AN16184A		SIDE KEY ASSY	AWW1361
NSP	50F SCAN B ASSY	AWW1351		LED ASSY	AWW1362
	└ IC2901 - IC2908	AN16184A		IR ASSY	AWW1363
	SENSOR ASSY	AWW1340		FAN CONNECT ASSY	AWW1364
	50F DIGITAL Assy	AWW1347		RLS ASSY	AWW1365
	50F X DRIVE ASSY	AWV2546		POWER SW ASSY	AWW1366
	50F Y DRIVE ASSY	AWV2547		* CARD ASSY	AWV2558
			⚠	POWER SUPPLY UNIT	AXY1200
				PDP SERVICE ASSY 509FE	AWU1342

* These Assys are for PDP-LX5090H model use.

■5■6■7■8■

1.2 JIGS LIST

A

Name	Jig No.	Remarks
Flexible cable for service	GGP1048	refer to “4.2 DISASSEMBLY 4 Sub Multi Chassis”

■

2. BLOCK DIAGRAM

2.1 OVERALL WIRING DIAGRAM (1/2)

A

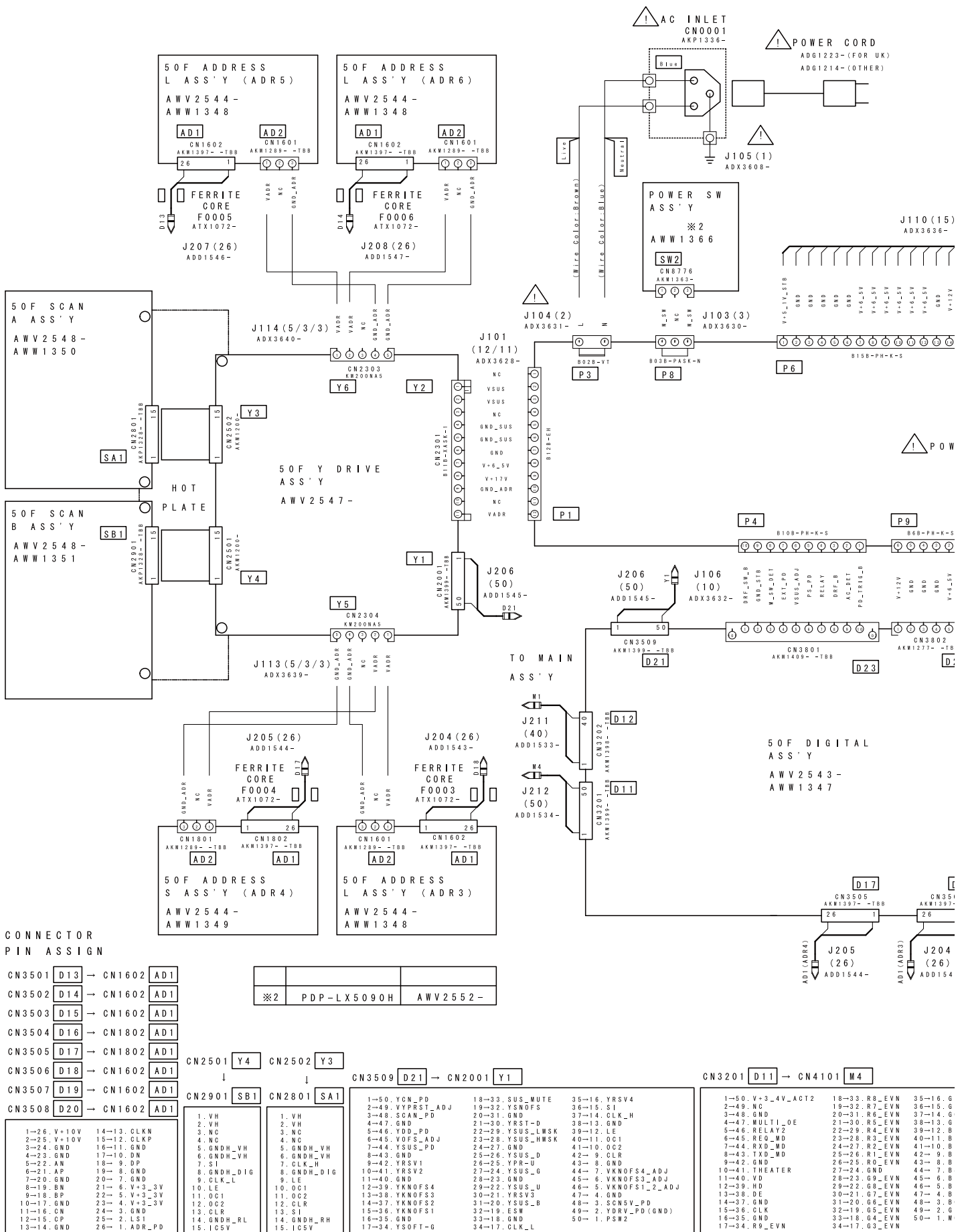
B

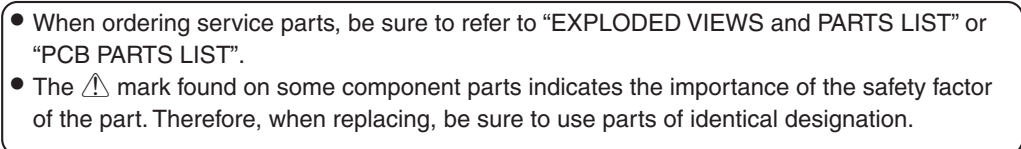
C

D

E

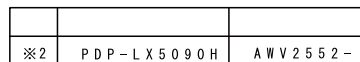
F



3 - (FOR UK)
1 - (OTHER)

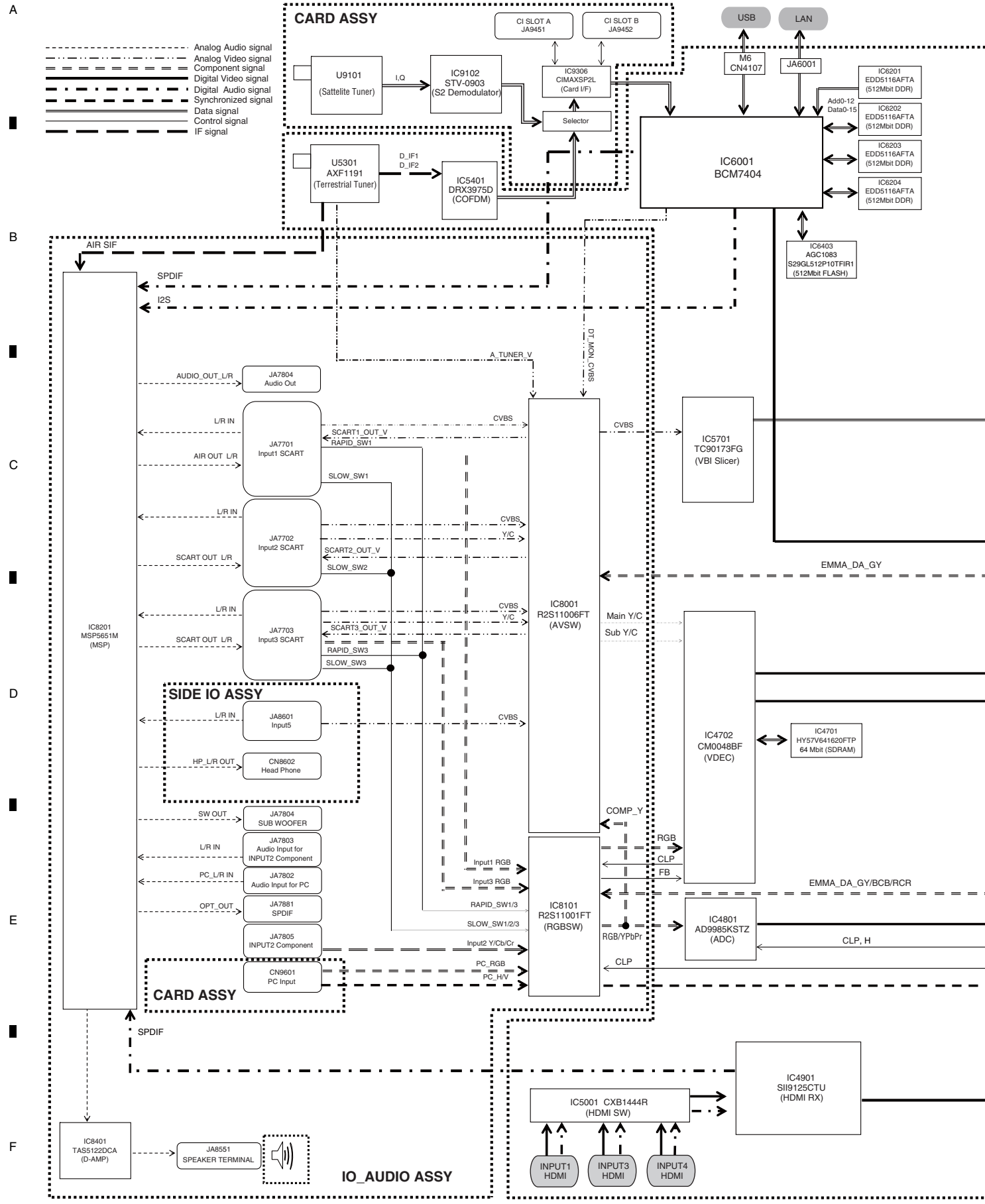
PDP-LX5090H

△





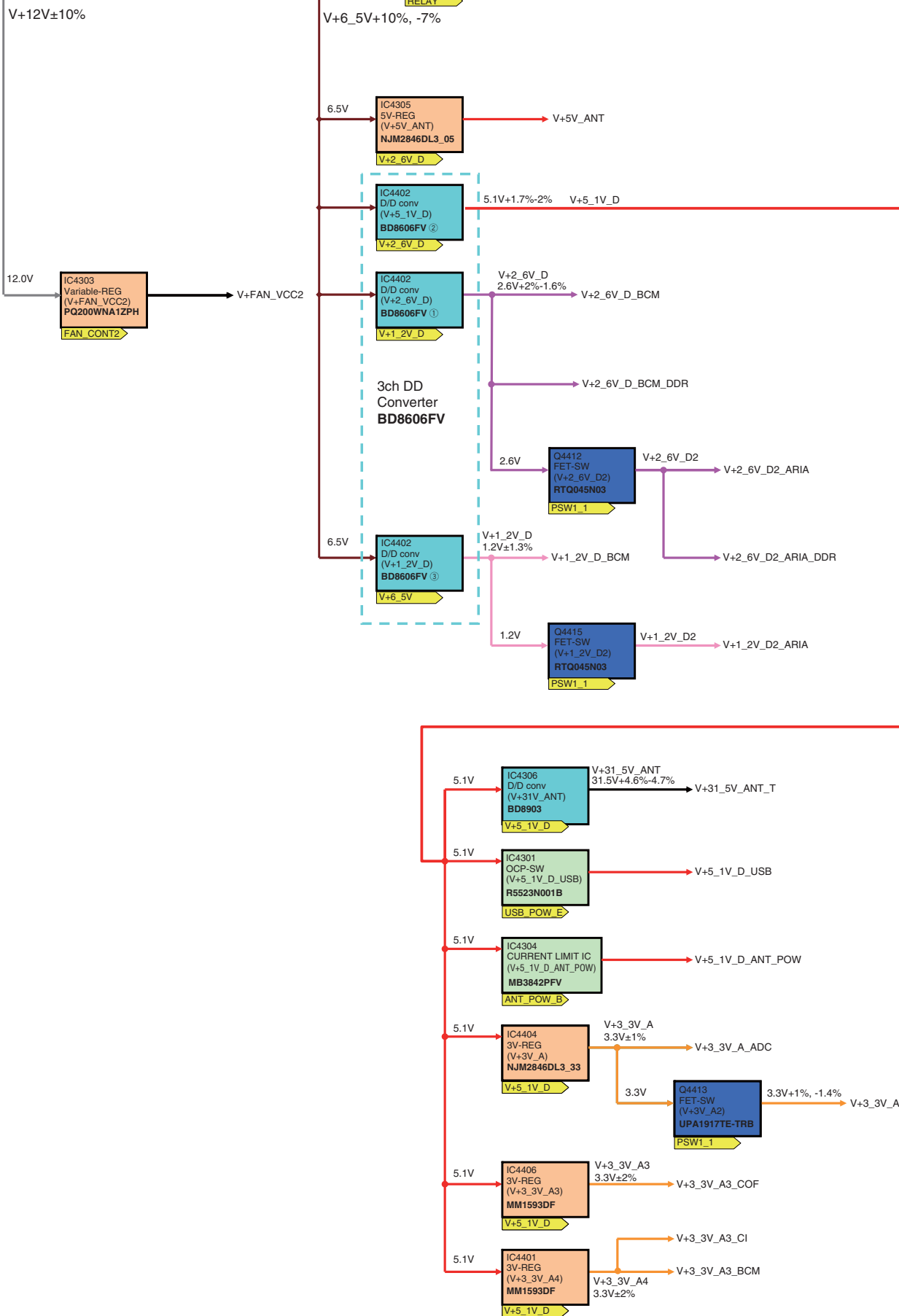
2.3 OVERALL BLOCK DIAGRAM (MULTI BASE SECTION)



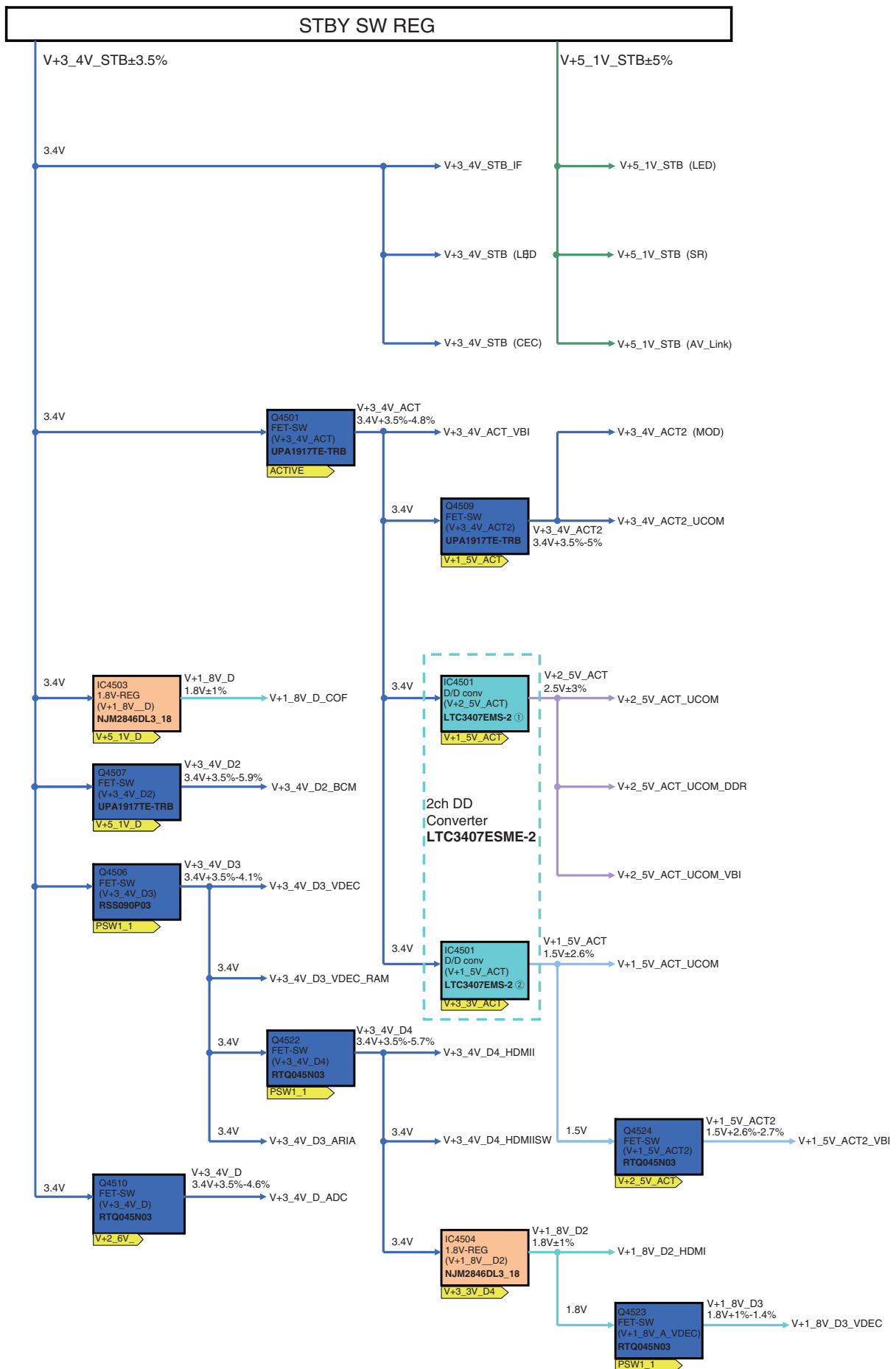


2.4 POWER SUPPLY BLOCK of MAIN ASSY

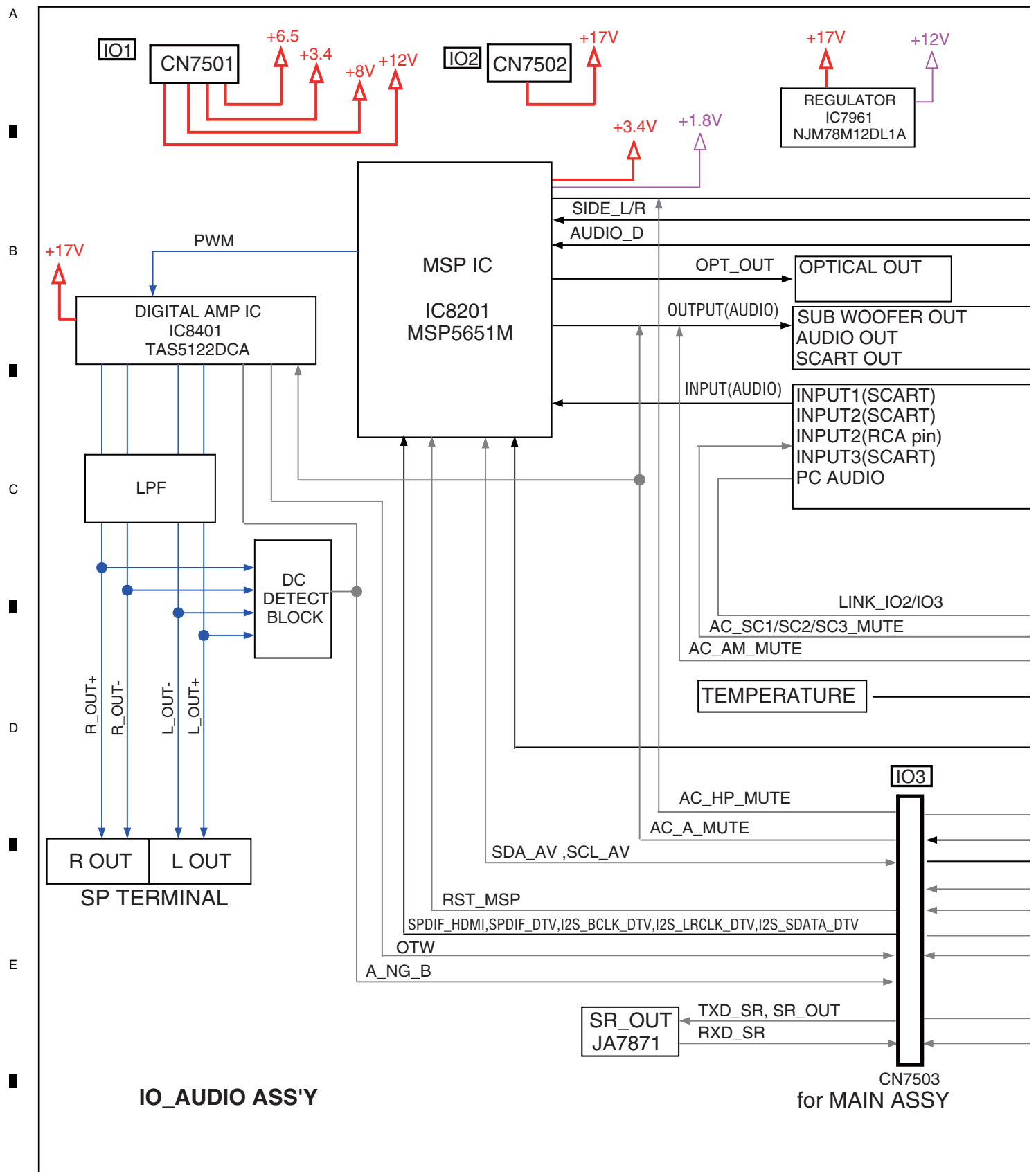
SW REG CONTROLLED BY RELAY

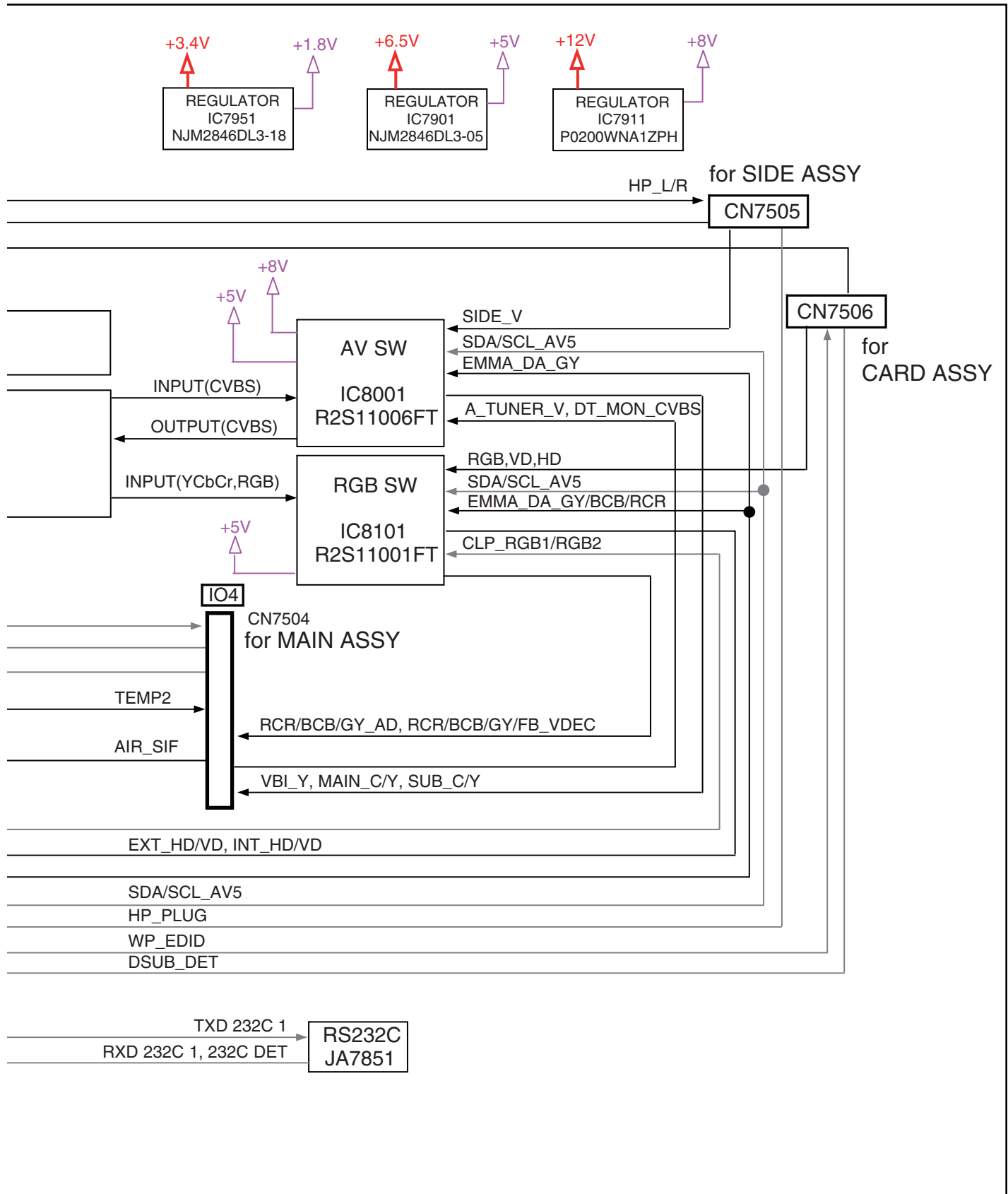


PDP-LX5090H



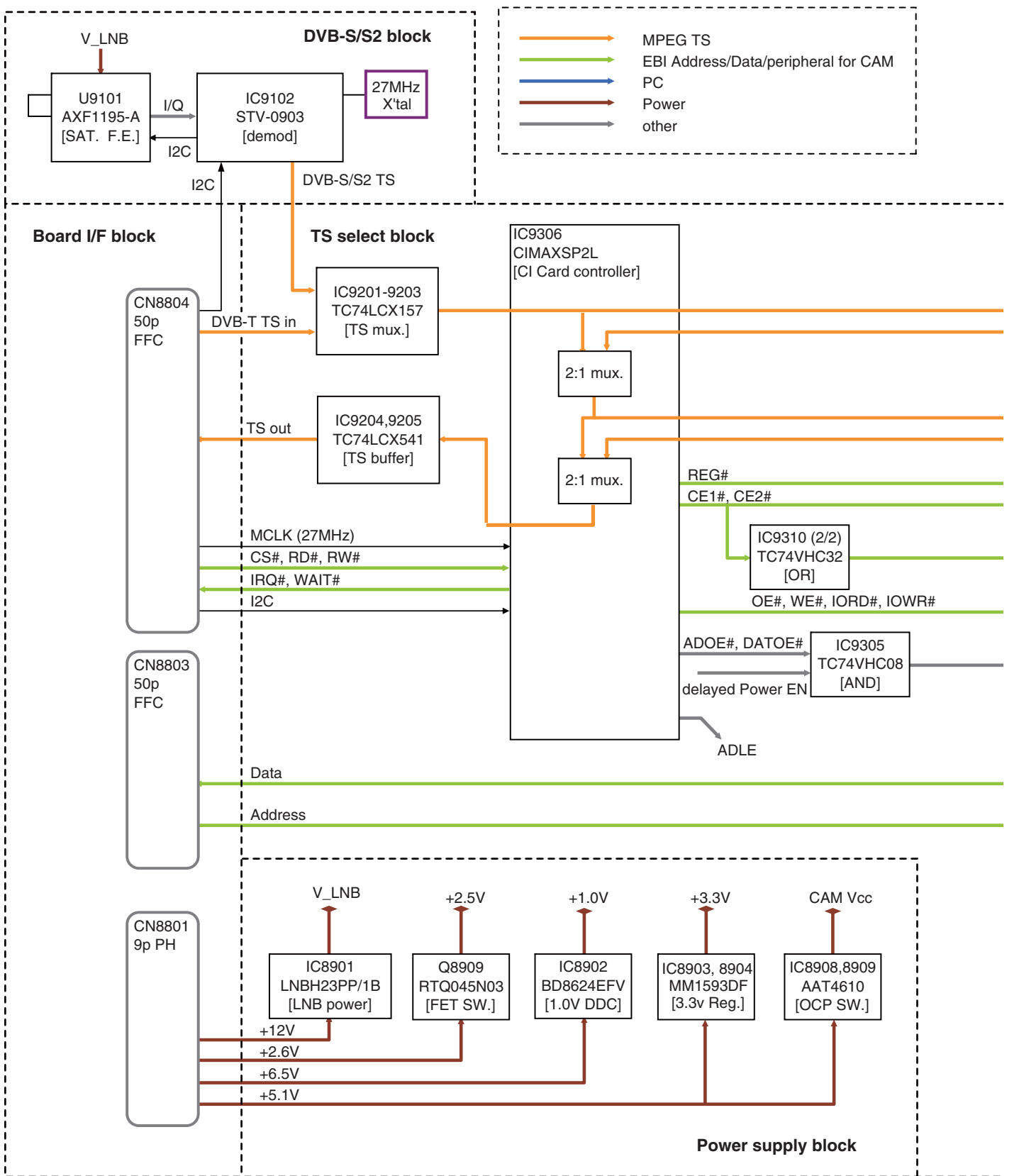
2.5 IO_AUDIO ASSY

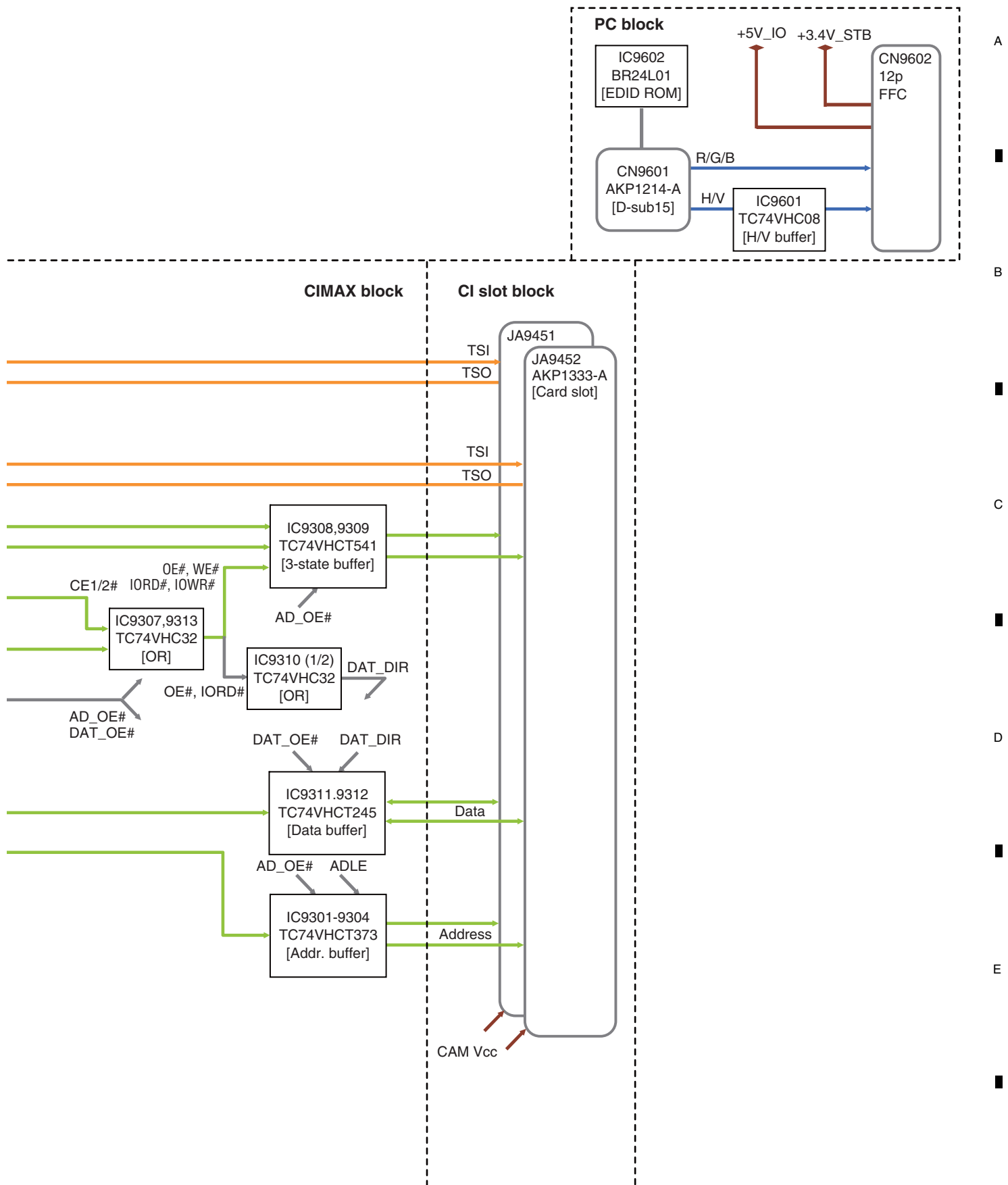




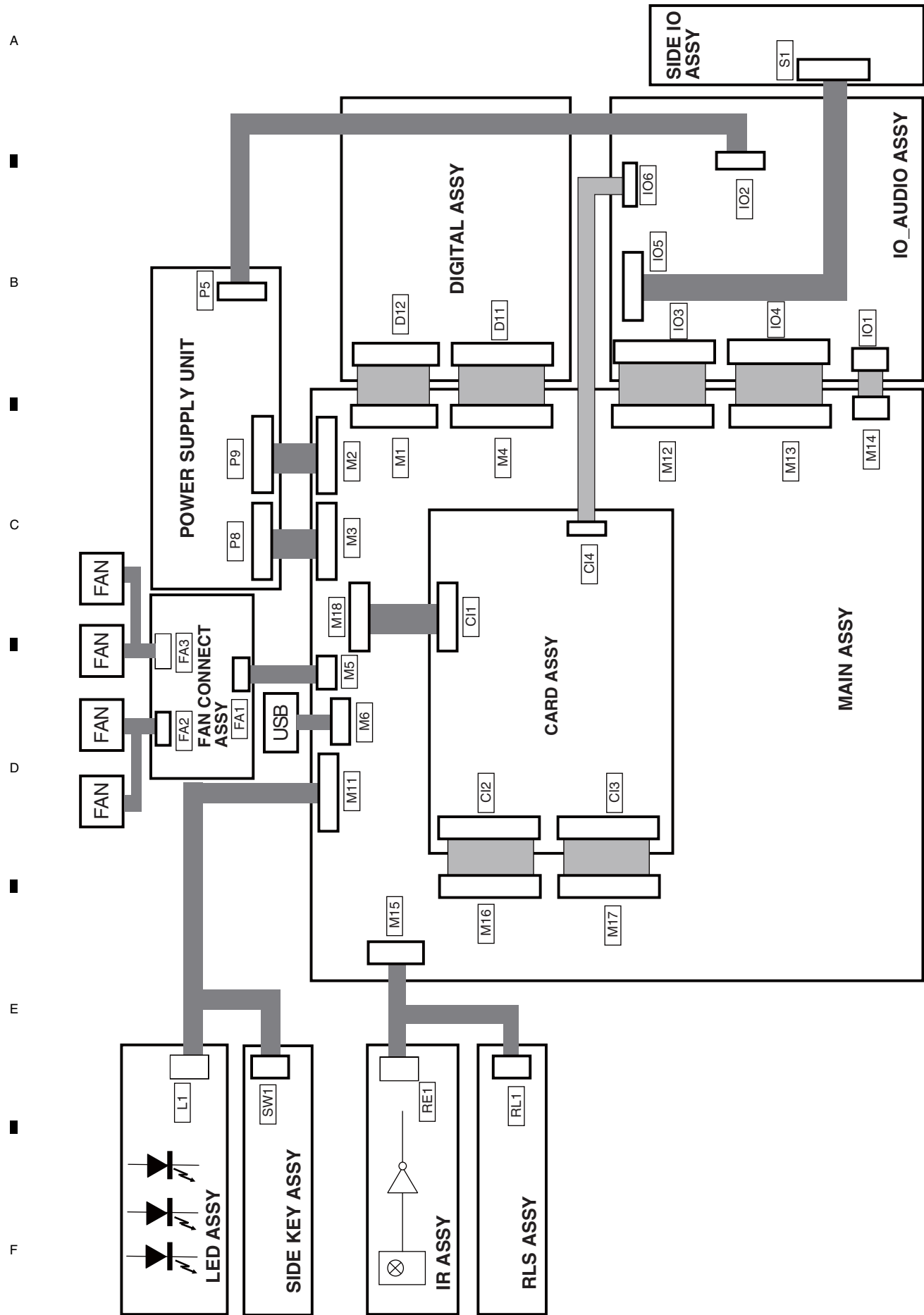
2.6 CARD ASSY

A
B
C
D
E
F





2.7 LED and IR ASSYS



3. DIAGNOSIS

3.1 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

A

Following items are same as the PDP-LX5090.

- [1] WHOLE UNIT
- [2] POWER SUPPLY UNIT
- [3] DRIVE ASSY
- [4] DIGITAL ASSY
- [7] AUDIO SYSTEM

B

C

D

E

F

[5] MAIN ASSY

Flowchart of Failure Analysis for The MAIN Assy

Failure analysis for the
MAIN Assy => MA1

The STB LED does not light although
STB 3.4 V power is supplied.

Does the POWER switch on?

No

Turn the POWER switch on.

Yes

Is resetting of the IF
microcomputer canceled?

No

Replace the MAIN Assy.

Failure in the RST IC (IC8302) output or its peripheral circuits

Yes

Is the voltage at Pin 3 of the M11
connector High?

No

Replace the MAIN Assy.

Failure in the line between the IF microcomputer and M11 connector

Yes

Is the M11 connector securely
connected?

No

Securely connect the M11 connector.

Yes

Is the cable that is connected to
the M11 connector broken?

Yes

Replace the cable (J116).

No

No problem with the MAIN Assy.
Check the LED Assy.

Failure analysis for the
MAIN Assy => MA2

The RELAY port does not work.
The power is not turned on.

Is the voltage at Pin 50 of the M4
connector 3.4 V?

No

Replace the MAIN Assy.

Relay control is unable unless it supplies a power supply to the module microcompute.

Yes

Are the voltages (1.5 V/2.5 V/3.4 V)
supplied to the main microcomputer?

No

Replace the MAIN Assy.

Yes

Is voltage at REQ_IF on the MAIN
Assy High (3.3 V)?

No

Can the unit be turned on, using
the remote control unit?

No

Replace the cable (J117) that
connects between the IR and
MAIN Assys.

NG

Replace the IR Assy.

NG

Replace the MAIN Assy.

Yes

Can the unit be turned on, using
the Power switch on the unit?

No

Replace the cable (J116) that
connects between the SIDE KEY
and MAIN Assys.

NG

Replace the SIDE KEY Assy.

NG

Replace the MAIN Assy.

Can the unit be turned on, using
RS-232C commands?

No

Replace the 50P cable (J213) that
connects between the IO and
MAIN Assys.

NG

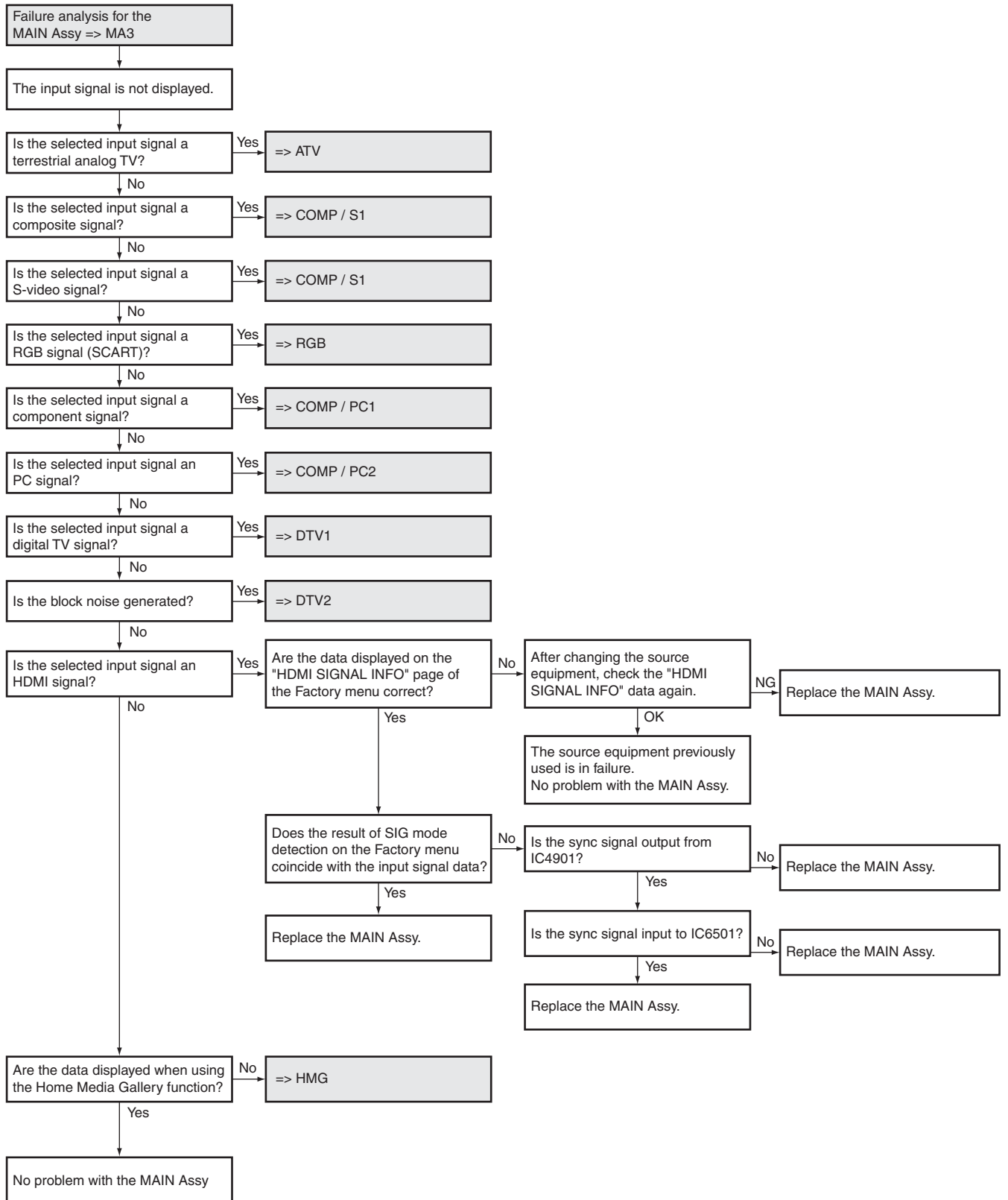
Replace the IO Assy.

NG

Replace the MAIN Assy.

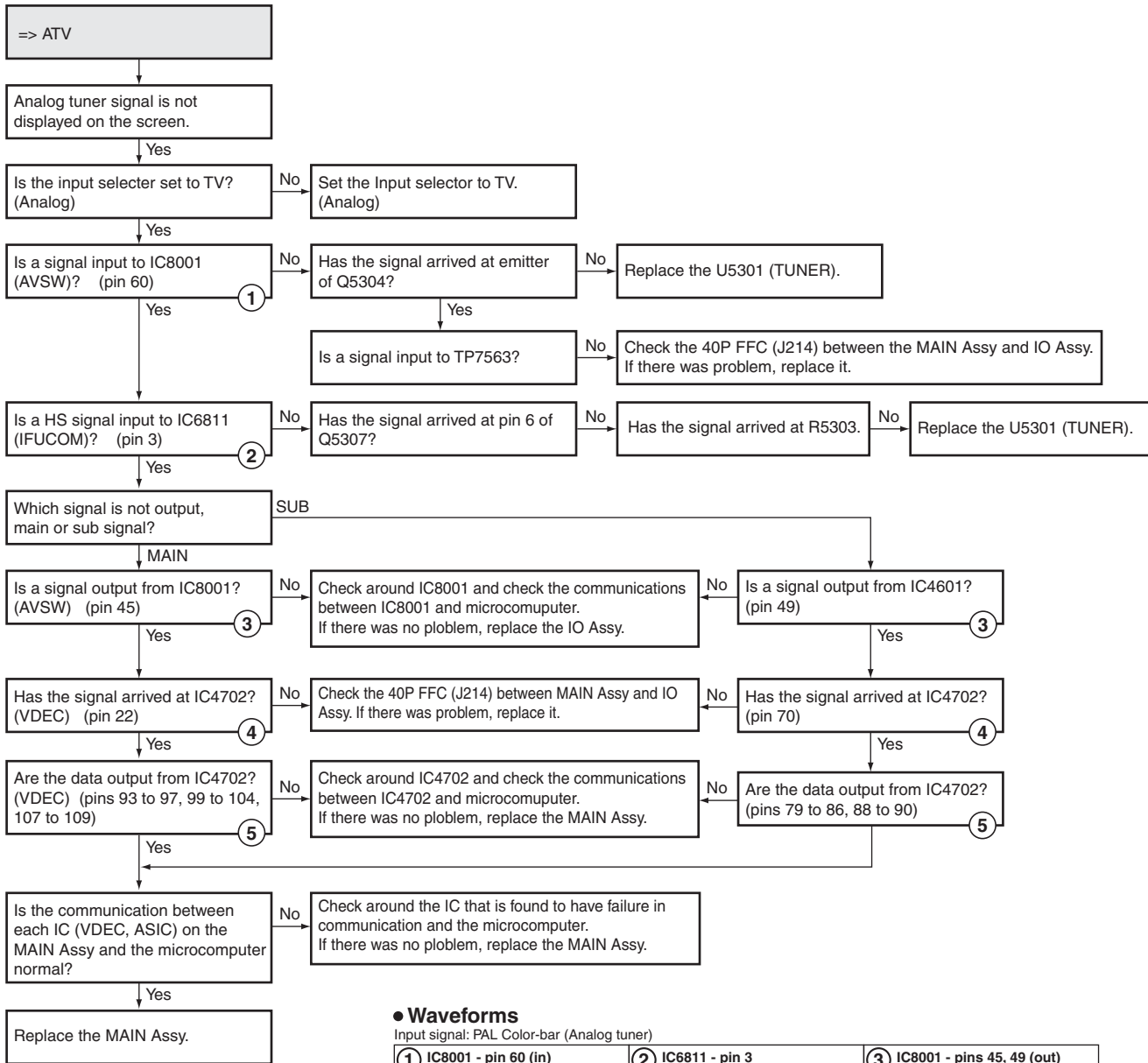
Replace the MAIN Assy.

Flowchart of Failure Analysis for The MAIN Assy



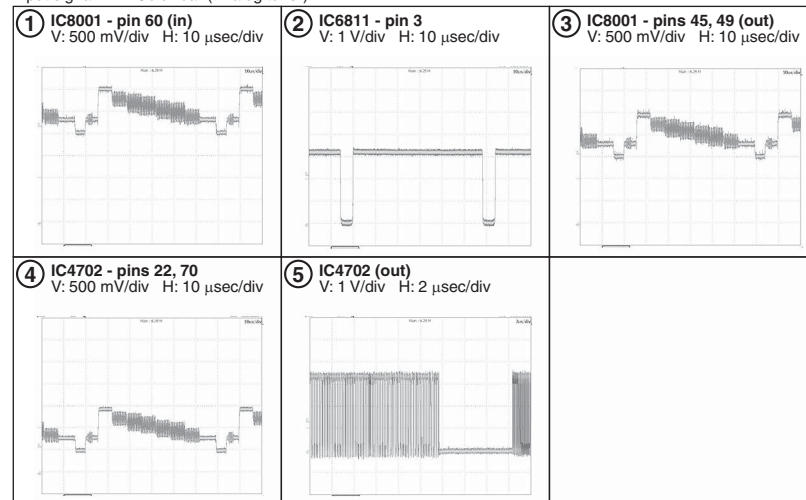
[6] VIDEO SYSTEM

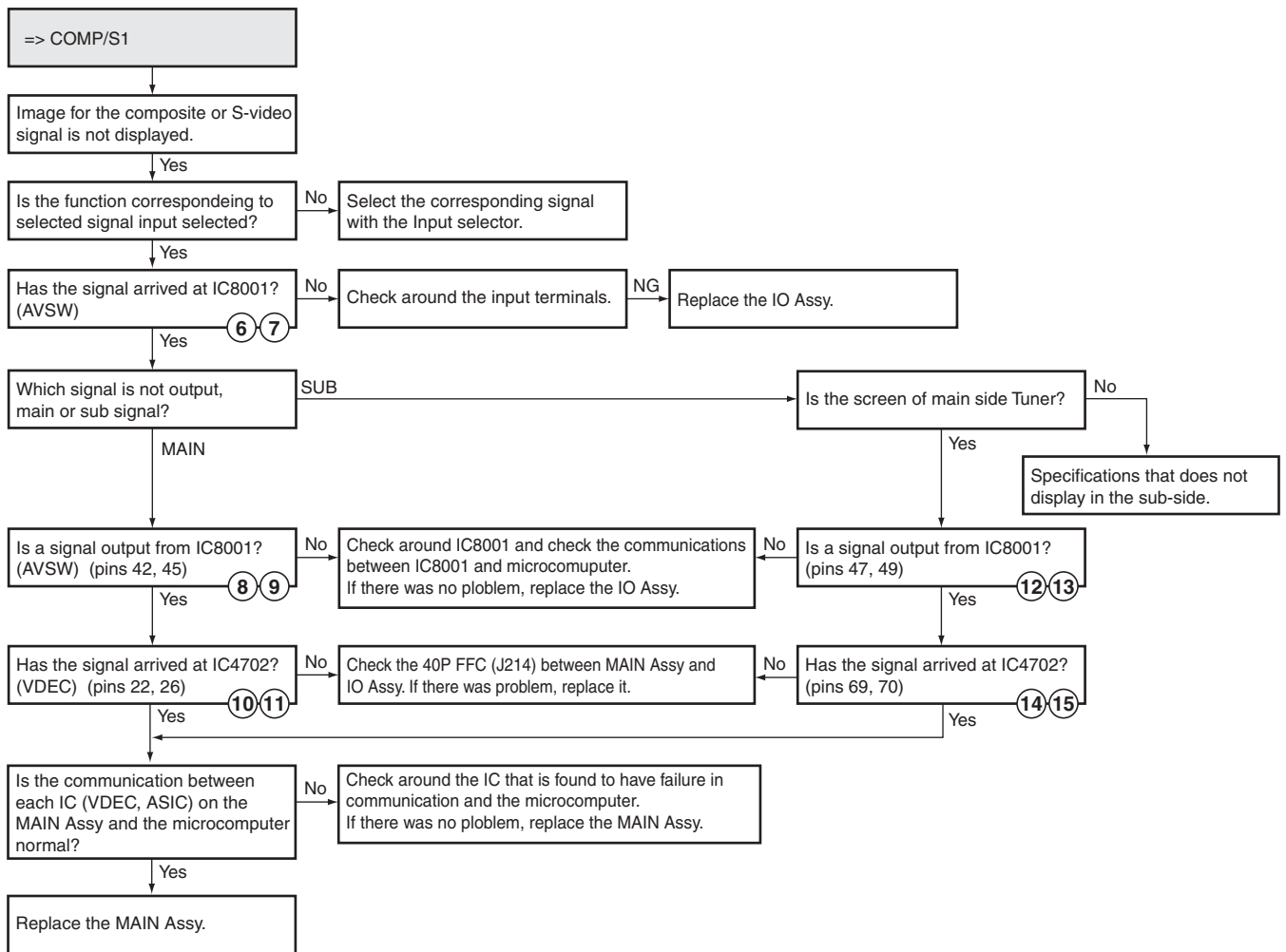
Flowchart of Failure Analysis for The Video System



• Waveforms

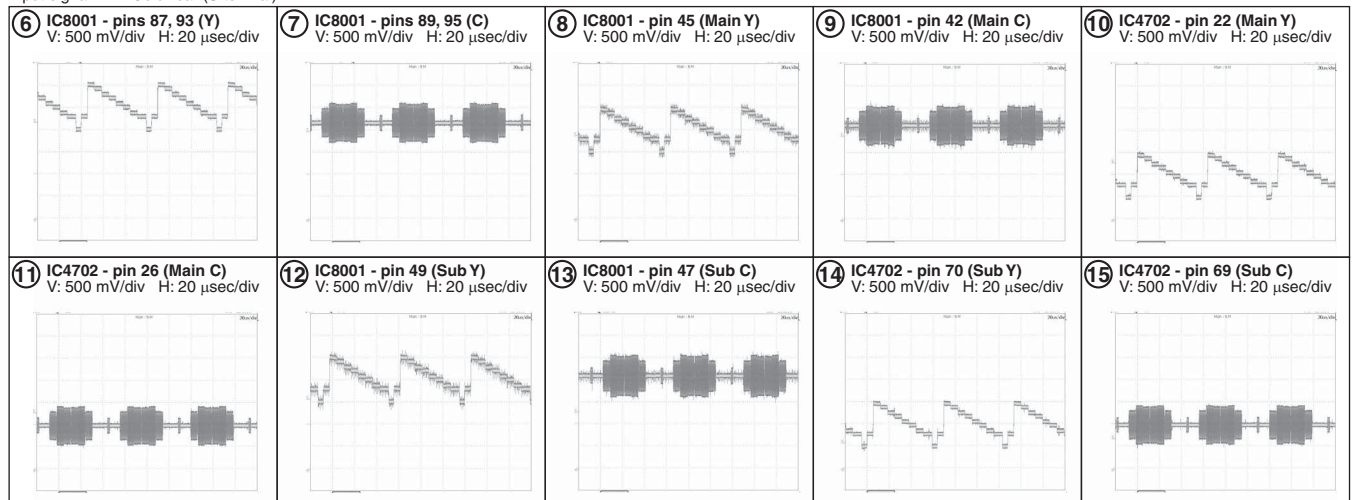
Input signal: PAL Color-bar (Analog tuner)



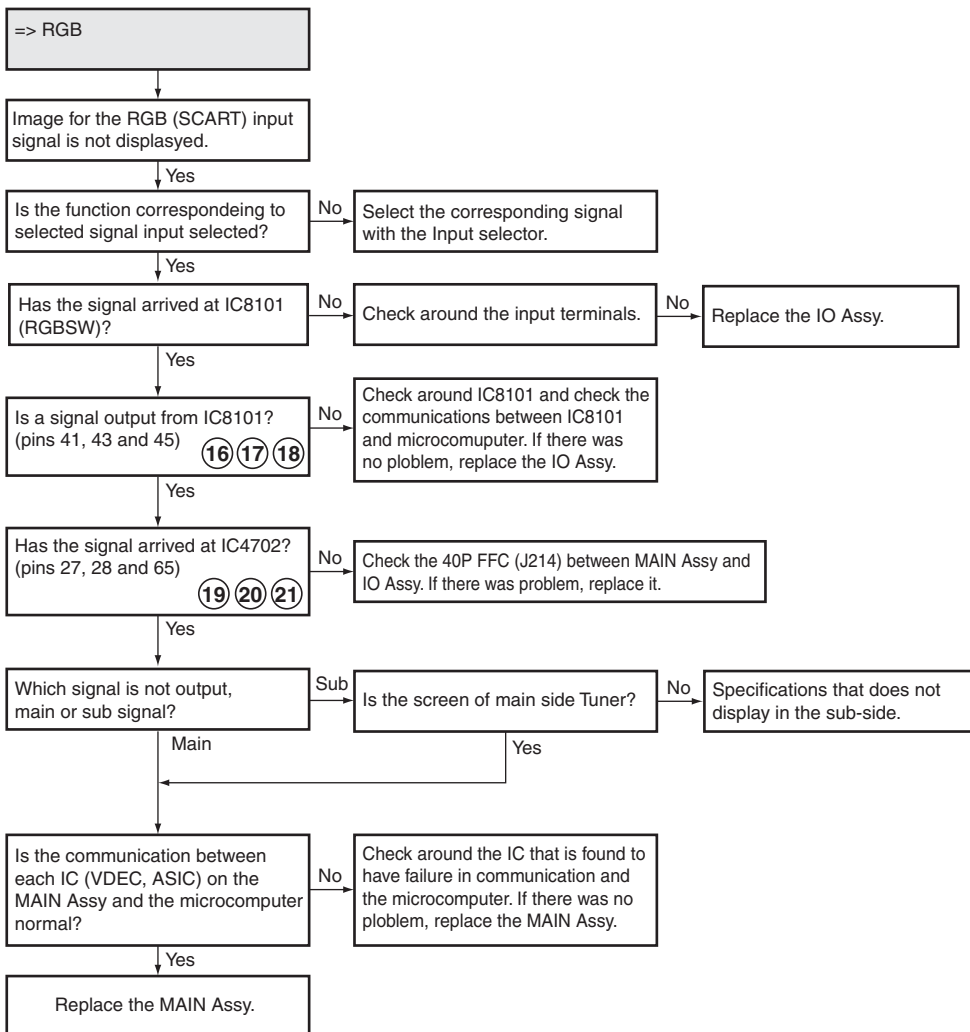


• Waveforms

Input signal: PAL Color-bar (S terminal)



A



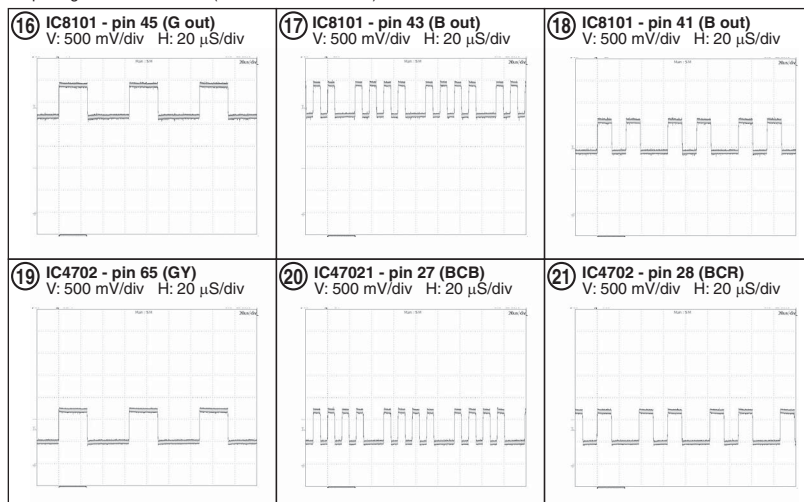
B

C

D

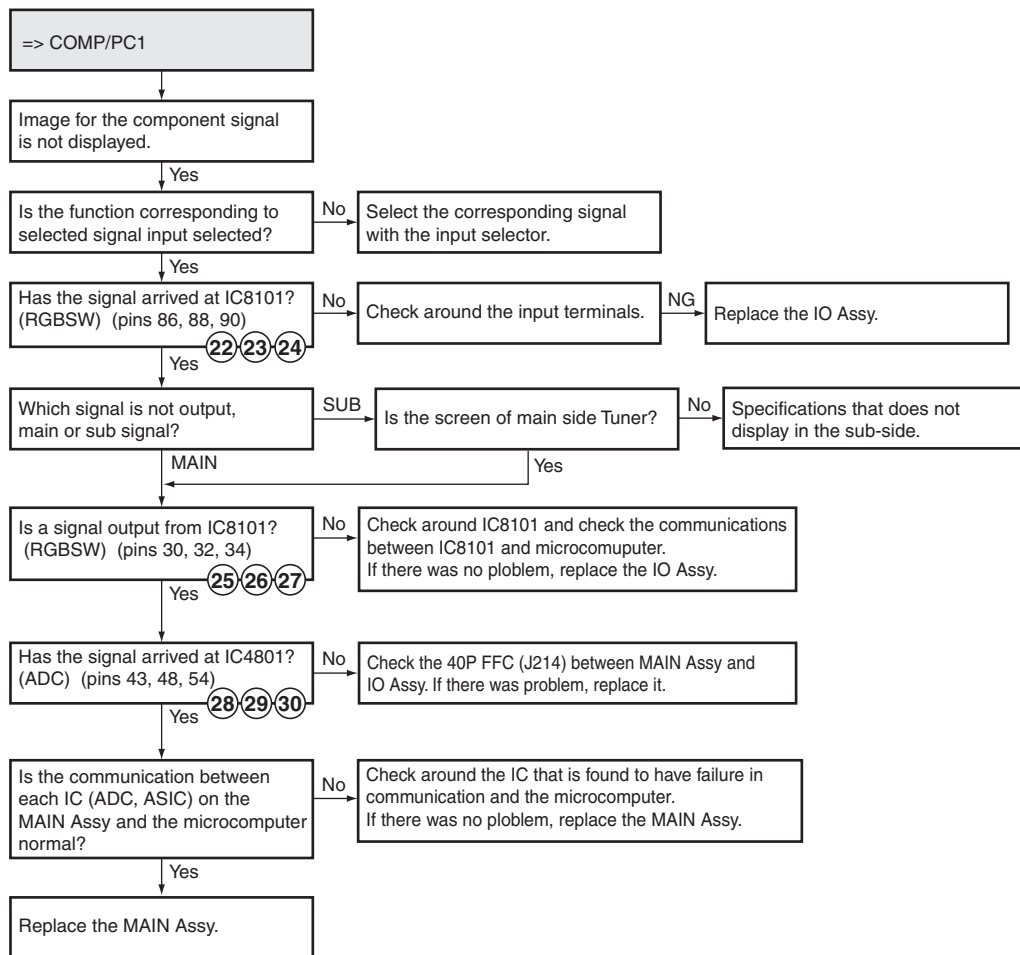
• Waveforms

Input signal: PAL Color-bar (SCART RGB terminal)



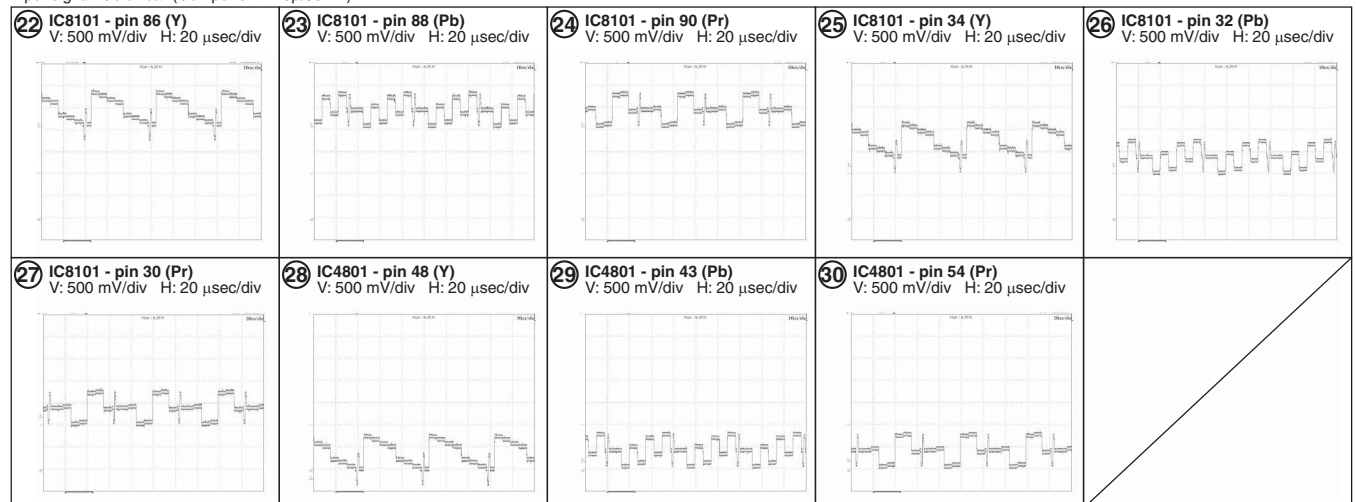
E

F



● Waveforms

Input signal: Color-bar (Component 720p/50 Hz)



A

=> COMP/PC2

Image for the PC signals is not displayed.

Yes

Is the function corresponding to selected signal input selected?

No

Select the corresponding signal with the input selector.

Yes

B

Has the signal arrived at IC8101? (RGBSW) (pins 2, 4, 6, 14, 15)

No

Check the 12P FFC (J215) between IO Assy and PC Assy. If there was problem, replace it.

Yes

Which signal is not output, main or sub signal?

SUB

Is the screen of main side Tuner?

No

Specifications that does not display in the sub-side.

MAIN

Yes

Is a signal output from IC8101? (RGBSW) (pins 30, 32, 34)

No

Check around IC8101 and check the communications between IC8101 and microcomputer. If there was no problem, replace the IO Assy.

Yes

C

Has the signal arrived at IC4801? (ADC) (pins 43, 48, 54)

No

Check the 40P FFC (J214) between MAIN Assy and IO Assy. If there was problem, replace it.

Yes

Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer normal?

No

Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN Assy.

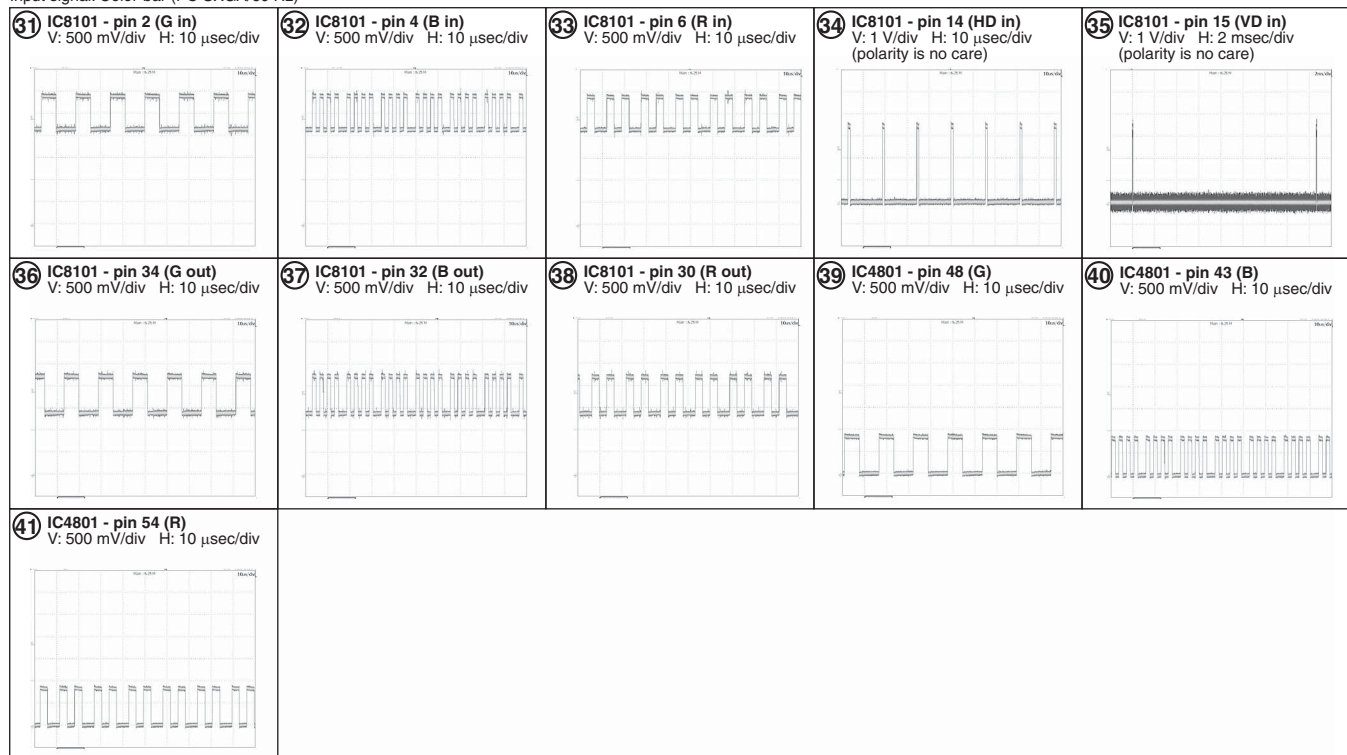
Yes

Replace the MAIN Assy.

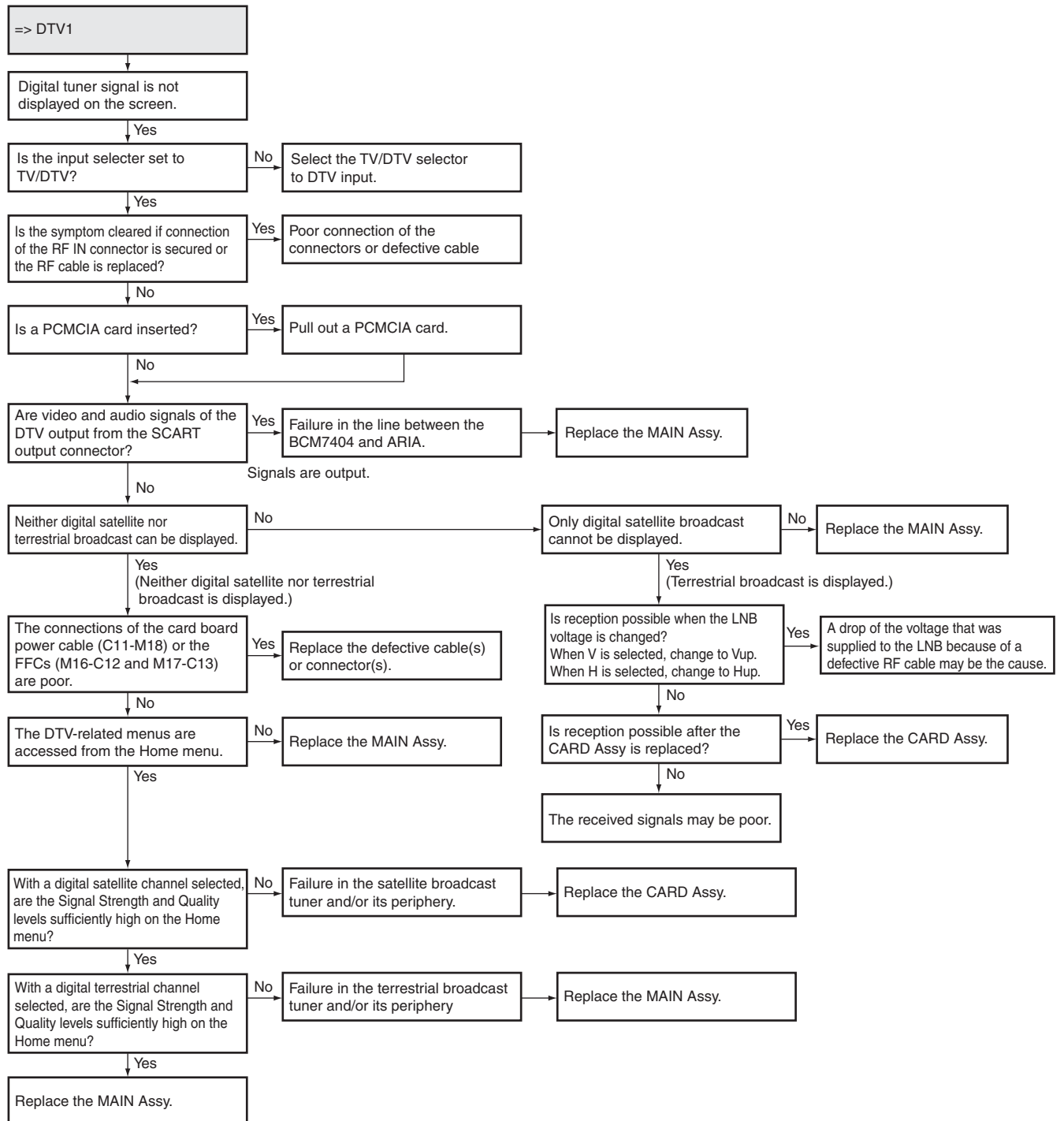
D

● Waveforms

Input signal: Color-bar (PC SXGA/60 Hz)



F



A

[Common to the DTVs 1 and 2] How to Display the DTB Service Menu

As you can display the DTB Service Menu from Factory mode, you should have a remote control unit that supports Factory mode.

Step 1: Press the Factory key on the remote control unit to display the INFORMATION screen in Factory mode.

Step 2: Press the Mute key on the remote control unit 3 times to display the INITIALIZE screen.

Step 3: Press the **↓** key on the remote control unit twice so that DTB SERVICE MODE (+) is displayed at the bottom of the screen.

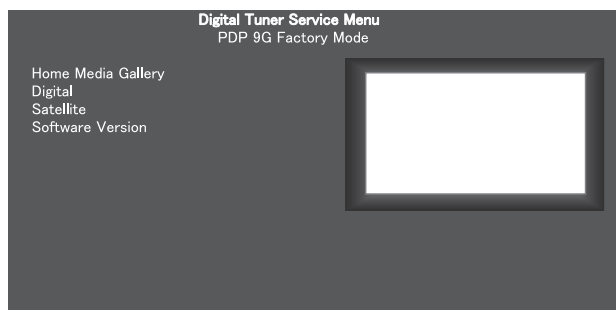
Step 4: Press the ENTER/SET key on the remote control so that MODE SHIFT <=> :No is displayed at the bottom of the screen.

Step 5: Press the **←** or **→** key on the remote control so that MODE SHIFT <=> :YES is displayed at the bottom of the screen.

Step 6: Press the ENTER/SET key on the remote control unit for 5 sec or more to display the DTB Service Menu.

B

Top page of the DTB Service Menu



C

Digital : Service menu for digital terrestrial broadcast reception

Satellite : Service menu for digital satellite broadcast reception

■

■ How to Change the LNB Voltage on the DTV Service Menu

On the Satellite screen of the DTV Service menu below, move the cursor to LNB POWER by using the **↓** key on the remote control unit then change the LNB voltage, using the **←** or **→** key.

D

The LNB voltage values are as shown below:

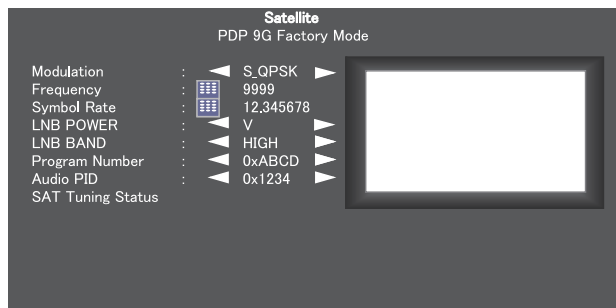
V: 13V (Typ.)

H: 18V (Typ.)

Vup: V+1V

Hup: H+1V

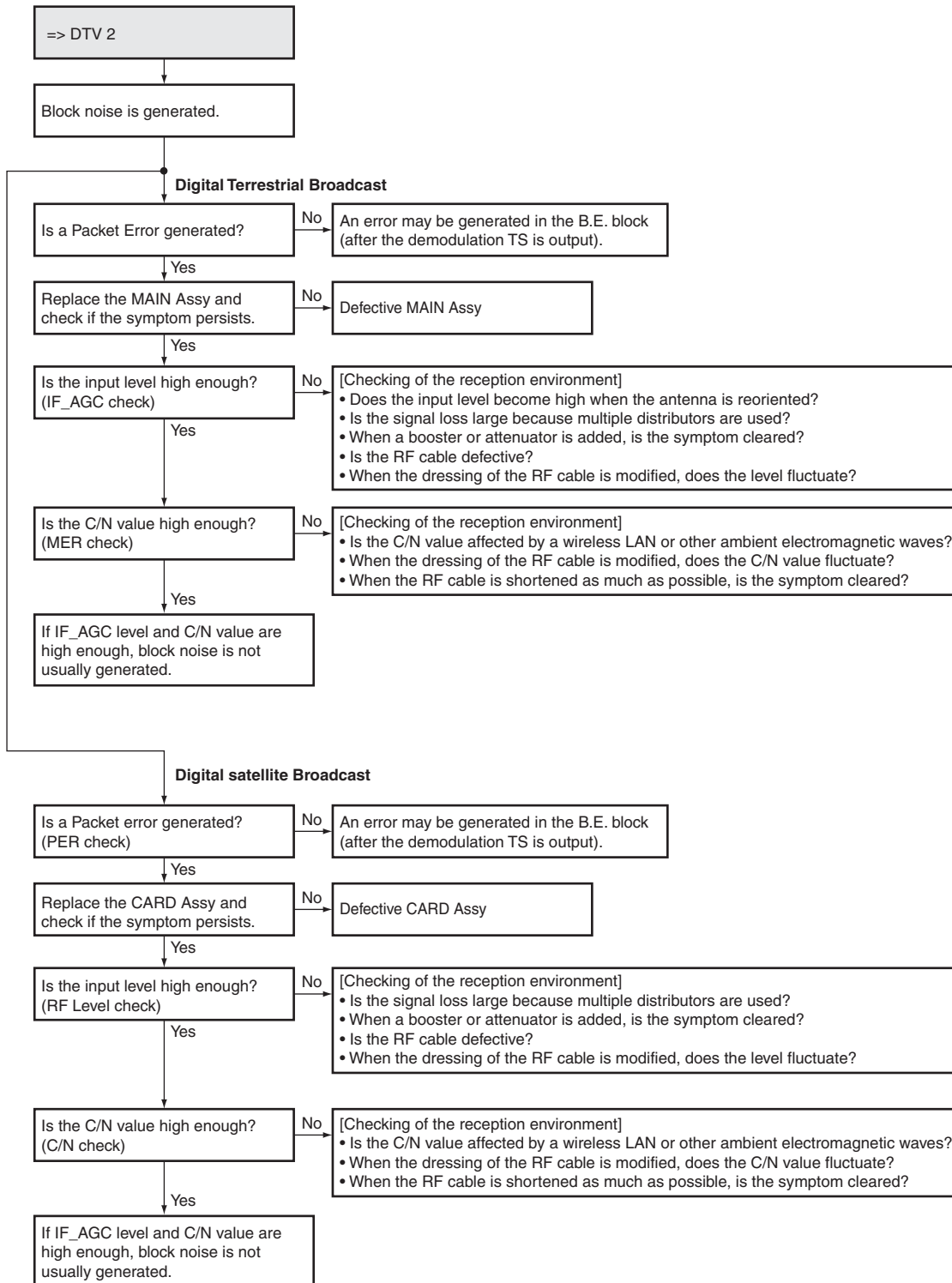
■



E

■

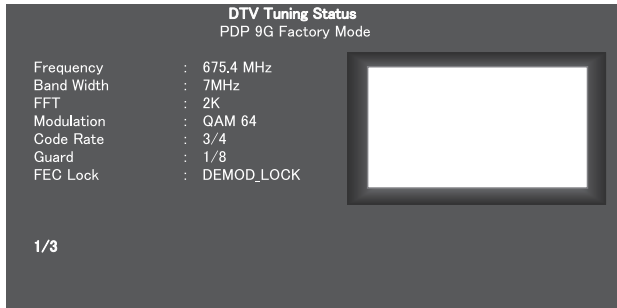
F



How to Confirm the DTV Tuning Status on the Digital Tuner Service Menu

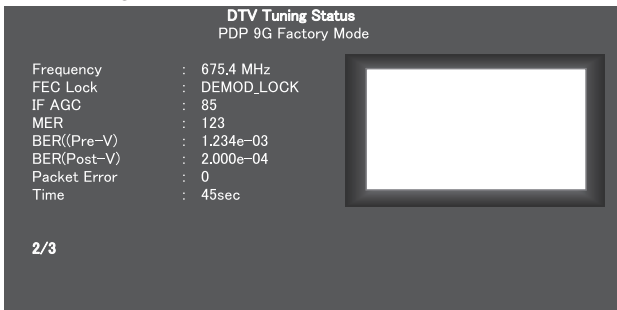
If block noise is generated, it is necessary to acquire the DTV Tuning Status for the reception frequency of the signal in which block noise is generated. For comparison, it is also necessary to acquire the DTV Tuning Status for another reception frequency of the signal in which block noise is not generated. The DTV Tuning Status page to be acquired is shown below:

DTV Tuning Status (1/3)



Frequency : Frequency of the signal currently being received
 Band Width : Bandwidth of the signal currently being received
 FFT : FFT mode of the signal currently being received (2K or 8K)
 Modulation : Modulation method for the signal currently being received
 Code Rate : Code Rate of the signal currently being received
 Guard : Guard Interval of the signal currently being received
 FEC Lock : Current lock status of the receiver. The available lock statuses are as shown below:
 DEMOD_LOCK
 EFC_LOCK
 DRX_LOCK
 UNLOCK

DTV Tuning Status (2/3)



IF AGC : IF AGC level of the signal currently being received.
 The AGC-level limits in normal reception are shown below.
 Use the following values only as a guide, because they may be affected by the reception environment.

Modulation	Code Rate	Signal-level Limit in Normal Reception
QPSK	1/2	100
	2/3	100
	3/4	100
	5/6	100
	7/8	100
16QAM	1/2	100
	2/3	100
	3/4	100
	5/6	100
	7/8	100
64QAM	1/2	100
	2/3	58
	3/4	56
	5/6	55
	7/8	54

MER : Quality of the signal currently being received.
 The signal qualities in normal reception are shown below.
 Use the following values only as a guide.

Modulation	Code Rate	MER Limit in Normal Reception
QPSK	1/2	93
	2/3	85
	3/4	67
	5/6	76
	7/8	82
16QAM	1/2	98
	2/3	116
	3/4	127
	5/6	138
	7/8	145
64QAM	1/2	140
	2/3	170
	3/4	184
	5/6	197
	7/8	206

BER (Pre-V) : Pre-Viterbi Bit Error Rate of the signal currently being received
 BER (Post-V) : Post-Viterbi Bit Error Rate of the signal currently being received. If the value is 2.000E-04, block noise is not caused by a problem in the tuner.
 Packet Error : Packet error count of the signal currently being received.
 Time : Measured duration of BER (Pre-V), BER (Post-V), or Packet Error. To reset the value to 0 and restart measuring, press the ◀ or ▶ key on the remote control unit.

DTV Tuning Status (3/3)

DTV Tuning Status

PDP 9G Factory Mode

Program Number : 0x0101

Video PID : 0xABCD

Audio PID : 0x1234

PCR PID : 0x5678

Video Format : 1080i@60

Aspect : 16 : 9

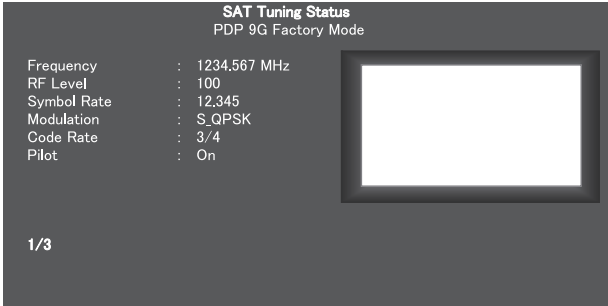
3/3

Program Number : No. of the program currently being received
Video PID : Video PID of the program currently being received
Audio PID : Audio PID of the program currently being received
PCR PID : PCR PID of the program currently being received
Video Format : Video Format of the program currently being received
Aspect : Aspect ratio of the program currently being received

How to Confirm the SAT Tuning Status on the Digital Tuner Service Menu

If block noise is generated, it is necessary to acquire the SAT Tuning Status for the reception frequency of the signal in which block noise is generated. For comparison, it is also necessary to acquire the SAT Tuning Status for another reception frequency of the signal in which block noise is not generated. The SAT Tuning Status page to be acquired is shown below:

SAT Tuning Status (1/3)

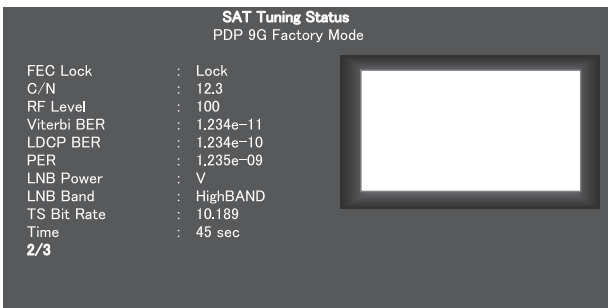


Frequency : Frequency of the signal currently being received
 RF Level : Level of the signal currently being received.
 The signal-level limits in normal reception are shown below. Use the following values only as a guide, because they may be affected by the reception environment.

Modulation	Signal-level Limit in Normal Reception
S2_QPSK	50 to 75
S2_8PSK	50 to 75
S_QPSK	50 to 75

Modulation : Modulation method for the signal currently being received
 Symbol Rate : Symbol Rate of the signal currently being received
 Code Rate : Code Rate of the signal currently being received
 Pilot : On/off status of the Pilot signal currently being received

SAT Tuning Status (2/3)



FEC Lock : Current lock/unlock status of the error-correction function of the receiver
 C/N : Current reception C/N. The limit C/Ns in normal reception are shown below. Use the following values only as a guide.

Limit C/N in normal reception

Modulation	Code Rate	Limit C/N in Normal Reception	Modulation	Code Rate	Limit C/N in Normal Reception
S2_QPSK	1/2	1.1	S2_8PSK	3/4	8.1
S2_QPSK	3/5	2.4	S2_8PSK	5/6	9.6
S2_QPSK	2/3	3.2	S2_8PSK	8/9	11.0
S2_QPSK	3/4	4.2	S2_8PSK	9/10	11.3
S2_QPSK	4/5	4.8	S_QPSK	1/2	5.2
S2_QPSK	5/6	5.3	S_QPSK	2/3	7.0
S2_QPSK	8/9	6.4	S_QPSK	3/4	8.0
S2_QPSK	9/10	6.6	S_QPSK	5/6	9.1
S2_8PSK	3/5	7.9	S_QPSK	7/8	9.8
S2_8PSK	2/3	8.0			

Viterbi BER : Bit error rate while the S_QPSK signal is being received. While the S2_QPSK or S2_8PSK signal is received, **** is displayed. If the value is 2e-4 or less, block noise is not caused by a problem in the tuner.

LDOP BER : Bit error rate while the S2_QPSK or S2_8PSK signal is being received. While the S_QPSK signal is received, **** is displayed.

PER : Packet error rate during reception. If the value is 0.000e-00, block noise is not caused by a problem in the tuner.

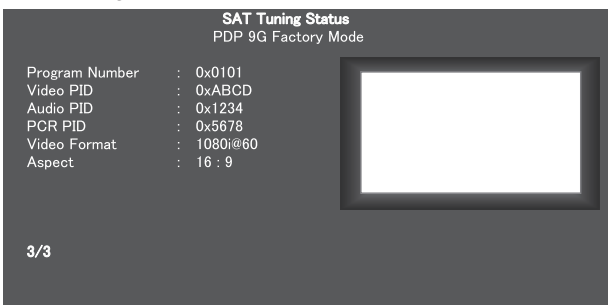
LNB POWER : Voltage currently being supplied to the LNB

LNB BAND : Frequency band that is currently set to the LNB

TS Bit Rate : TS Bit Rate of the signal currently being received

Time : Measured duration of Viterbi BER, LDOP BER, or PER. To reset the value to 0 and restart measuring, press the ◀ or ▶ key on the remote control unit.

SAT Tuning Status (3/3)



Program Number : No. of the program currently being received

Video PID : Video PID of the program currently being received

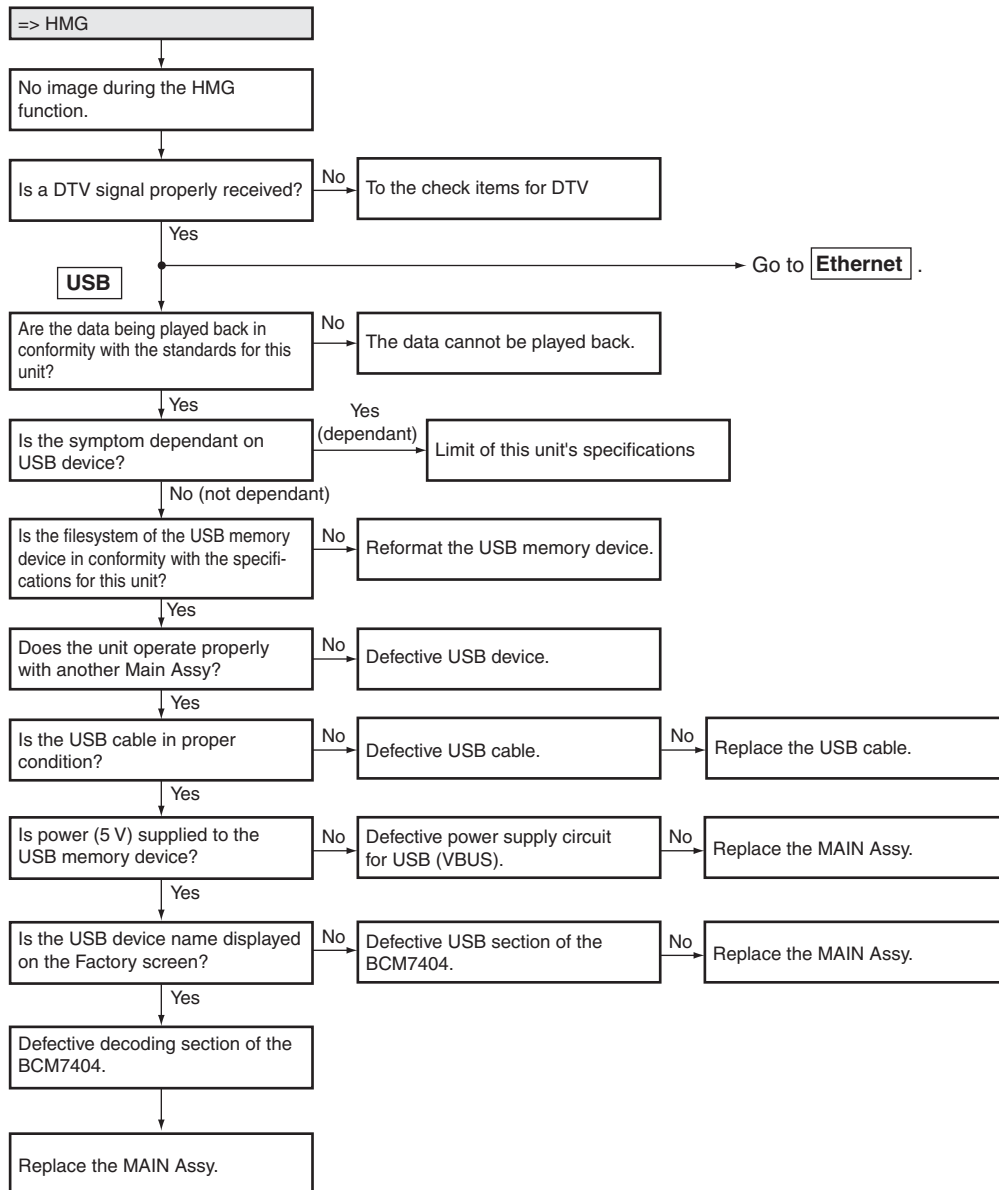
Audio PID : Audio PID of the program currently being received

PCR PID : PCR PID of the program currently being received

Video Format : Video Format of the program currently being received

Aspect : Aspect ratio of the program currently being received

Flowchart of Failure Analysis for The HMG



A

Ethernet

Can network functions be used with the PC (server) without any problem?

No

Defective network board of the PC.

Yes

Is the Link LED of the Ethernet terminal on the server side lit?

No

Is the cable OK?

No

Problem with the cable.

Yes

Defective Ethernet section on the MAIN Assy

Replace the MAIN Assy.

B

Is the MAC Address [00:e0:36:***:***:***] displayed on the network Setup screen?

No

The data specific to the MAIN Assy have been deleted.

No

Replace the MAIN Assy.

Yes

Is the HMG Setup correctly set?

No

Improper HMG Setup.

Yes

Can the server be selected (not grayed out) from the PDP?

No

Is the PC recognized by the server as a device?

No

Check the settings of the server again.

C

Yes

Can the files on the server be recognized?

Yes

Check the settings of the shared folder for the server again.

Yes

Defective decoding section of the BCM7404.

Replace the MAIN Assy.

Yes

Are the properties of the files displayed on the Factory screen?

No

Defective Ethernet section of the BCM7404.

No

Replace the MAIN Assy.

Yes

D

Defective decoding section of the BCM7404.

Replace the MAIN Assy.

[HMG] How to enter DTB Service menu

Note: Use the remote control unit that supports Factory mode, because the DTB Service menu is accessible from Factory mode.

Step 1: Press the Factory key on the remote control unit to display the INFORMATION screen of Factory mode.

Step 2: Press the Mute key on the remote control unit 3 times to display the INITIALIZE screen.

E

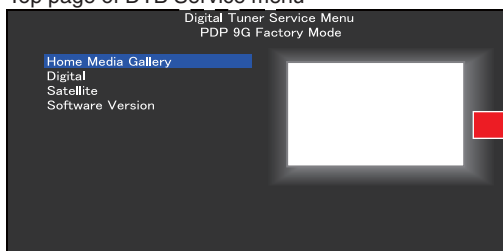
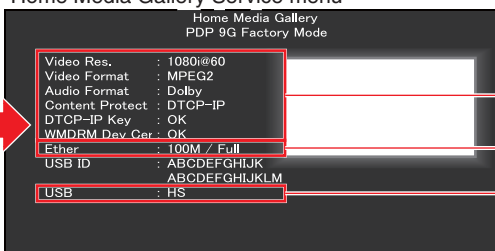
Step 3: Press the \downarrow key on the remote control unit twice to display the "DTB SERVICE MODE (+)" indication at the bottom of the screen.

Step 4: Press the ENTER/SET key on the remote control unit to display the "MODE SHIFT <=>: No" indication at the bottom of the screen.

Step 5: Press the \leftarrow or \rightarrow key on the remote control unit until the "MODE SHIFT <=>: YES" indication is displayed at the bottom of the screen.

Step 6: Press and hold the ENTER/SET key on the remote control unit pressed for 5 seconds or more to activate DTB Service menu.

The Home Media Gallery (HMG) Service menu is indicated below:

Top page of DTB Service menu**Home Media Gallery Service menu**

Content data

Ethernet connection data

USB device data

F

3.2 DIGITAL TUNER SERVICE MENU

The Digital Tuner Service Menu is provided for collecting data for technological examination when the Digital Tuner has any problem in the market. This menu is introduced here just for reference.

[1] REMOTE CONTROL CODE IN DIGITAL TUNER SERVICE MENU

The following remote control cord is valid in the Digital Tuner Service Menu.

Remote Control Keys	Basic Functions	Remarks
↓ (DOWN)	Selecting the menu items and shifting the pages.	Shifting downward to the next item. Moving to the next lower page.
↑ (UP)		Shifting upward to the next item. Moving to the next upper page.
← (LEFT)	Selecting the setting value.	Modifying the setting of selected items.
→ (RIGHT)		
ENTER/SET	Shifting the menu layers	Shifting to the next menu screen.
RETURN		Shifting to the previous menu screen.
Numeric Keys	Numeric input	Input the numerical value.
POWER OFF	Power OFF	Turning the power off.
STANDBY/ON		
FACTORY	Factory ON/OFF	Release the Menu, then enter the Service Factory menu.
EXIT	MENU exit	After you exit the menu, the channel that was selected on the menu will be displayed.
MUTING	Muting	
HOME MENU	HOME MENU ON/OFF	

[2] HIERARCHICAL TABLE OF DIGITAL TUNER SERVICE MENU

Item	Remarks
Large Item	
Middle Item	
6.3 [3] Digital Tuner Service Menu	
6.3 [4] HMG Service Menu	
	Exclusively used for technical analysis: HomeMediaGallery-related information indication
6.3 [5] Digital	
Bandwidth	Exclusively used for technical analysis
Frequency	Exclusively used for technical analysis
Program Number	Exclusively used for technical analysis
Audio PID	Exclusively used for technical analysis
DTV Tuning Status	Exclusively used for technical analysis: Terrestrial digital broadcasting-related information indication
6.3 [6] Satellite	
Modulation	Exclusively used for technical analysis
Frequency	Exclusively used for technical analysis
Symbol Rate	Exclusively used for technical analysis
LNB POWER	Exclusively used for technical analysis
LNB BAND	Exclusively used for technical analysis
Program Number	Exclusively used for technical analysis
Audio PID	Exclusively used for technical analysis
SAT Tuning Status	Exclusively used for technical analysis: Satellite digital broadcasting-related information indication
6.3 [7] Software Version	
	Exclusively used for technical analysis: The software revision information that consists of it in DTB software

[3] DIGITAL TUNER SERVICE MENU SCREEN

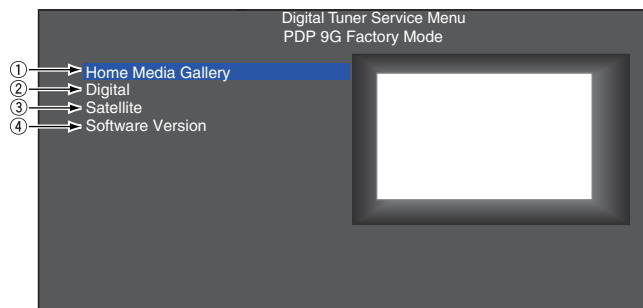


Fig.1 Digital Tuner Service Menu screen

Display a large item list of Digital Tuner Service Menu.
Select each item, and shift to each setting / information display screen.

- ① HomeMediaGallary-related information indication
- ② Terrestrial digital-related setting / information indication
- ③ Satellite digital-related setting / information indication
- ④ Digital Tuner-related detailed software version indication

[4] HOME MEDIA GALLERY SCREEN

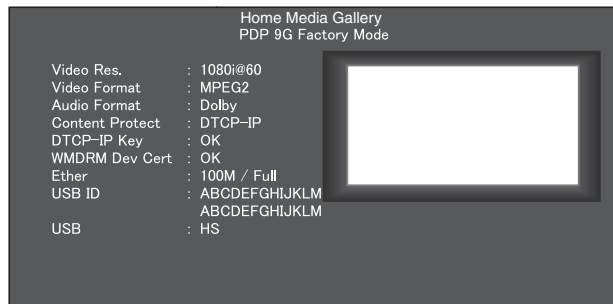


Fig.2 Home Media Gallery screen

Display the HomeMediaGallary-related information.

[5] DIGITAL SCREEN

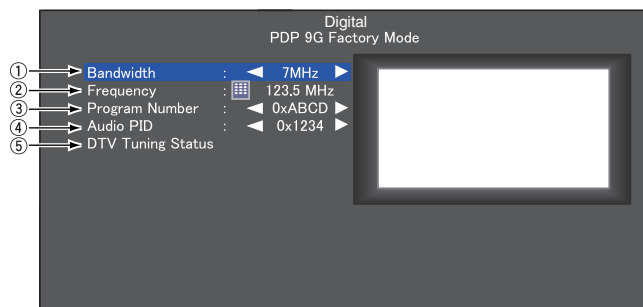


Fig.3 Digital screen

Display the Digital broadcasting-related setting / information indication.(except the satellite digital)

- ① The Bandwidth for receiving a digital broadcast can be selected. (7MHz/8MHz)
- ② The frequency can be set (up to 1 digit after the decimal point).
- ③ Program Number in the same stream: Service ID can be selected.
- ④ Audio PID in the same stream: Audio PID can be selected.
- ⑤ The DTV Tuning Status is displayed.

The data displayed on the DTV Tuning Status screen are as shown below:

The instructions for servicing using this screen is shown in "Details on how to confirm the factory DTV tuning status" of section 5.2 [6]. Therefore, this screen is introduced here just for reference.

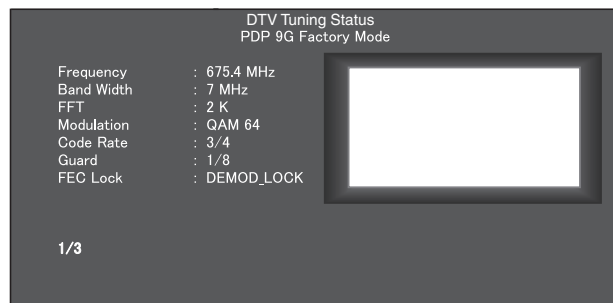


Fig.4 DTV Tuning Status (1/3) screen

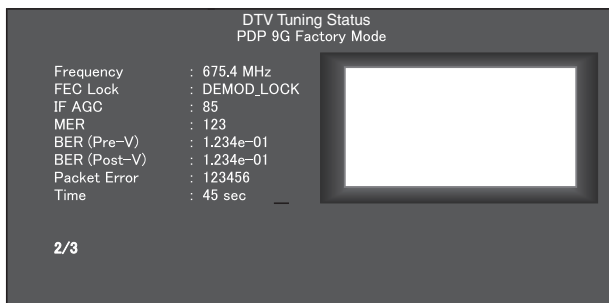


Fig.5 DTV Tuning Status screen (2/3) screen

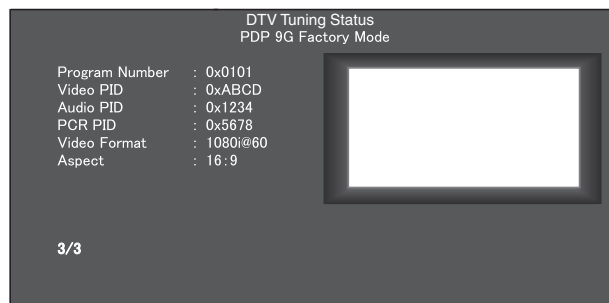


Fig.6 DTV Tuning Status screen (3/3) screen

[6] SATELLITE SCREEN

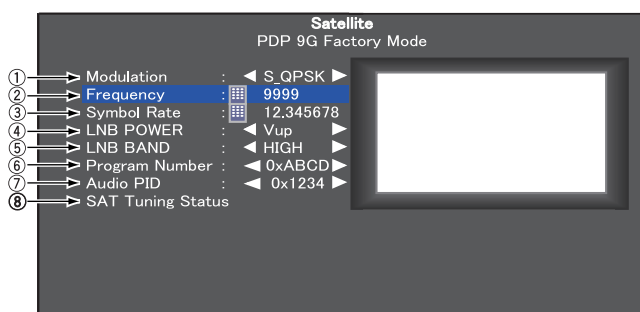


Fig.7 Satellite screen

Display the Satellite Digital broadcasting-related setting / information indication.

- ① The modulation method can be selected. (S_QPSK/S2_QPSK/S2_8PSK)
- ② The frequency can be set (0001 to 9999).
- ③ The symbol Rate can be set (1.000000 to 99.999999)
- ④ The LNB power voltage can be selected. (OFF/V/H/Vup/Hup)
- ⑤ The LNB Bandwidth can be selected. (Low/High)
- ⑥ Program Number in the same stream: Service ID can be selected.
- ⑦ Audio PID in the same stream: Audio PID can be selected.
- ⑧ The Tuning Status of Satellite Digital is displayed.

The data displayed on the SAT Tuning Status screen are as shown below:

The instructions for servicing using this screen will be provided as service information.

Therefore, this screen is introduced here just for reference.

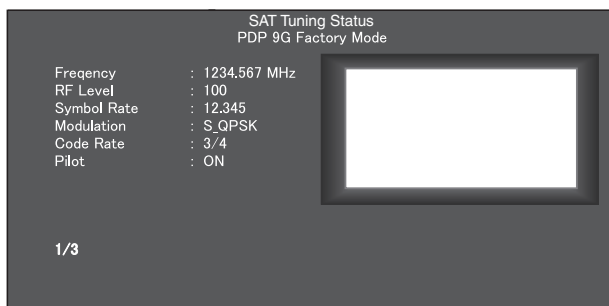


Fig.8 SAT Tuning Status (1/3) screen

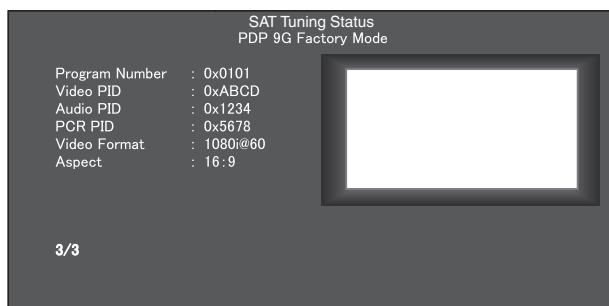


Fig.10 SAT Tuning Status (3/3) screen

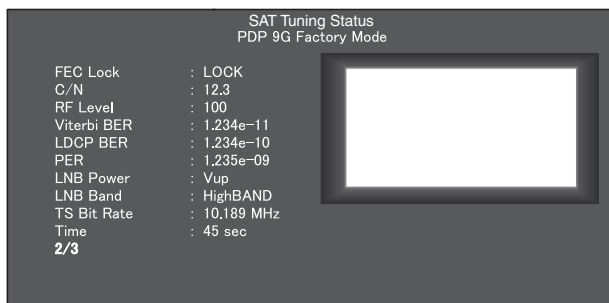


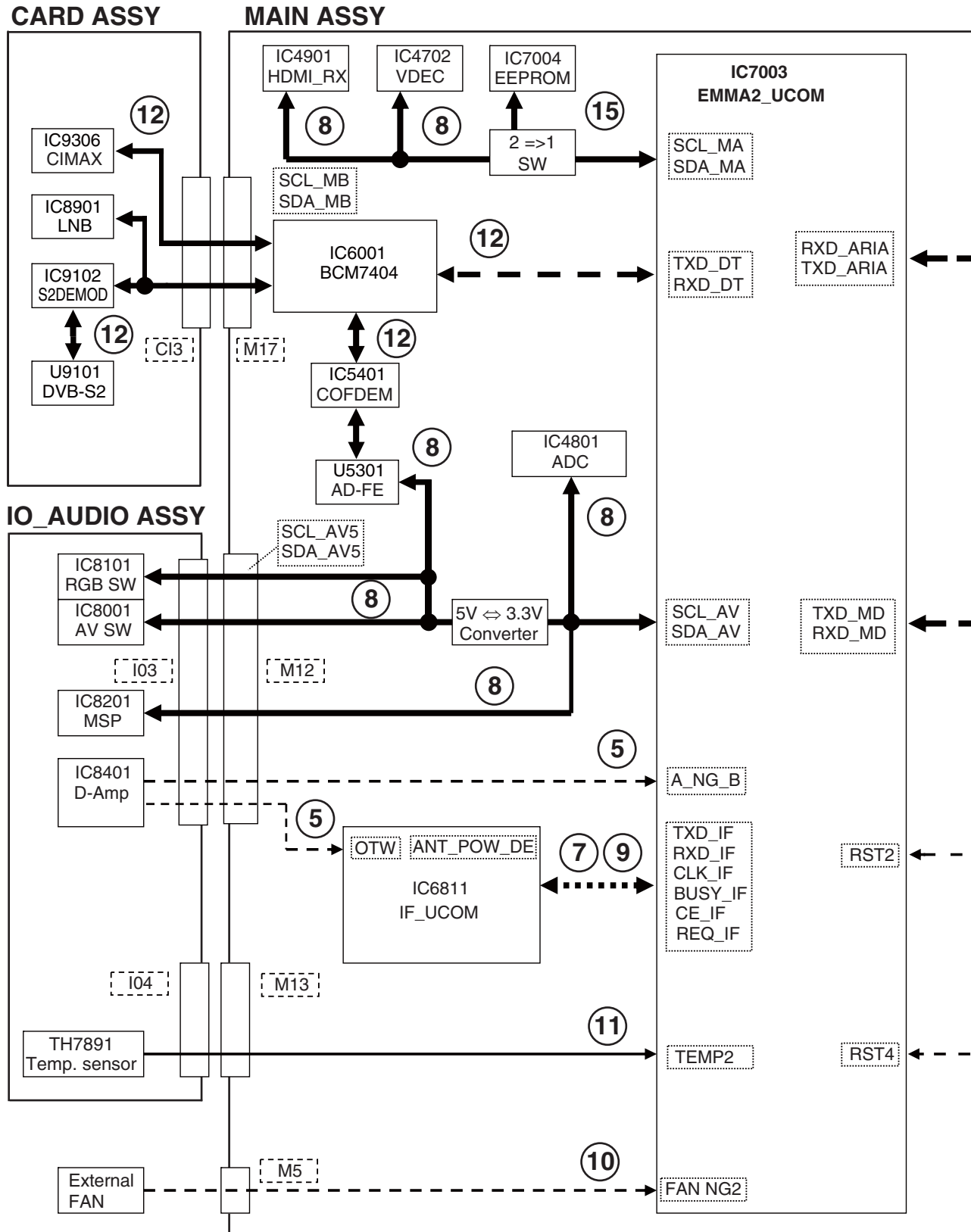
Fig.9 SAT Tuning Status (2/3) screen

[7] SOFTWARE VERSION SCREEN

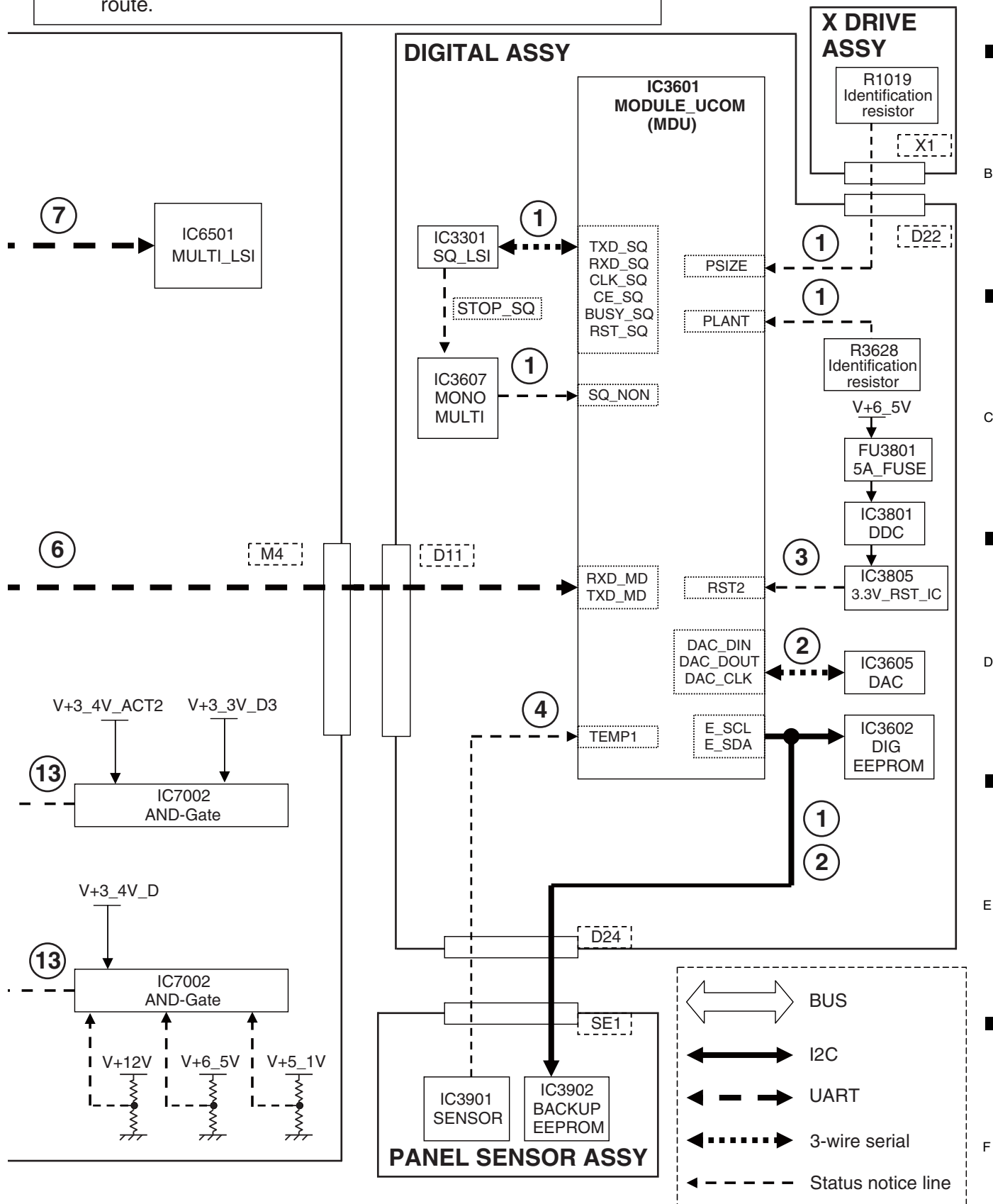
The details are not described here, as this is provided for technical examination.

3.3 DIAGNOSIS OF SD (SHUTDOWN)

[1] BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL



Note : The figures ① to ⑮ indicate the number of times the Blue LED flashes when shut-down occurs in the corresponding route.



A [2] SD (SHUTDOWN) DIAGNOSIS

Frequency of LED Flashing (*1)		Major Type	Detailed Type	Log Indication in Factory Mode		
				MAIN	SUB	
Blue 1	Orange 1	Abnormality in the Sequence LSI	Communication error	SQ-LSI	RTRY	
	Orange 2		Drive stop		SQNO	
	Orange 3		Busy		BUSY	
	Orange 4		Version mismatching (hardware, software)		VER-HS	
	Orange 5		Version mismatching (hardware, backup memory)		VER-HM	
	Orange 6		Version mismatching (hardware, DIGITAL memory)		VER-HI	
Blue 2	Orange 1	Failure in MDU device communication	Digital EEPROM	MD-DEV	EEPROM	
	Orange 2		Backup EEPROM		BACKUP	
	Orange 3		DAC IC		DAC	
Blue 3	—	Abnormality in RST2 power decrease	—	RST2	—	
Blue 4	Orange 1	Abnormality in panel temperature	Abnormality in high temperature	TMP-NG	TMP-H	
	Orange 2		Abnormality in low temperature		TMP-L	
Blue 5	Orange 1	Short-circuiting of the speakers D-AMP temperature abnormality	—	AUDIO	—	
	Orange 2				OTW	
Blue 6	—	Failure in communication with the module microcomputer	—	MODULE	—	
Blue 7	Orange 1	Failure in IF microcomputer	IF microcomputer	MA-3L	IF	
	Orange 2	3-wire serial communication	MULTI		MULTI	
Blue 8	Orange 1	Failure in IIC communication with the main microcomputer	Tuner 1	MA-IIC	FE1	
	Orange 2		MSP/MAP		MSPMAP	
	Orange 3		AV switch		AV-SW	
	Orange 4		RGB switch		RGB-SW	
	Orange 5		Main VDEC		VDEC	
	Orange 6		VDEC SDRAM		SDRAM	
	Orange 7		AD/PLL		ADC	
	Orange 8		HDMI		HDMI	
Blue 9	—	Failure in communication with the main microcomputer	—	MAIN	—	
Blue 10	Orange 2	Abnormality in FAN	FAN2	FAN	FAN2	
Blue 11	—	High temperature of the unit	—	TEMP2	—	
Blue 12	Orange 1	Digital Tuner	DTV startup error	DTUNER	PS/RST	
	Orange 2		DTV communication error		RETRY	
	Orange 3		DEVICE error		DEVICE	
	Orange 7		Tuner 1		DE-FE	
	Orange 18		Application		DTVAPP	
	Orange 19		COFDEM		DEMOD	
	Orange 20		Tuner S2		DE-FES	
	Orange 21		S2DEMOD		DEMODS	
	Orange 22		LNB		DE-LNB	
	Orange 1		DC-DC Converter power decrease	RST-MA	M-DCDC	
Blue 13	Orange 2	Failure in the power supply	POWER SUPPLY		RELAY	
Blue 15	—	Main EEPROM	Main EEPROM communication error	MA-EEP	—	
—	—		DTV Antenna	DTUNER	D-ANT	
—	—		Satellite Antenna	DTUNER	S-ANT	

*1: If the DISPLAY key is pressed during shutdown (the blue LED is flashing), flashing of the orange LED, which indicates the subcategory, can be confirmed.
The blue LED remains flashing. Pressing the DISPLAY key again will make the orange LED go dark.

Checkpoint	Possible Defective Part	Remarks
Communication line between MDU and SQ_LSI	IC3601/IC3301	SQ_IC communication not established. IC3301 may not have properly started up.
Drive detectig signal of MDU (SQ_NON)	CN3201/IC3601/ IC3301/IC3607	A shutdown occurs if the drive waveform periodically does not output. (When SQ_NON of MDU input is High, a shutdown is generated.)
Communication line between MDU and SQ_LSI (BUSY_SQ)	IC3601/IC3301	If BUSY_SQ remains high, a shutdown is generated.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connection between [X1] and [D22].	IC3601/IC3301	When the identification resistor of PSIZE/PLANT and software version of SEQ are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22], and [SE1] and [D24]. Communication line between MDU and BACKUP EEPROM	IC3601/ SENSOR Assy(IC3902)	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the SENSOR Assy are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22]. Communication line between MDU and DIG EEPROM	IC3601/IC3602	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the DIGITAL Assy are incoherent, a shutdown occurs.
Communication line between MDU and DIG EEPROM	IC3601/IC3602	
Communication line between MDU and BACKUP EEPROM	IC3601/SENSOR Assy(IC3902)	
Communication line between MDU and DAC	IC3601/IC3605	
3.3 V output (TP3881) of DDC	IC3801/IC3805	If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.
V+6.5V of POWER SUPPLY Unit (Check [D25][P4]) FU3801 has melted.	POWER SUPPLY Unit, FU3801	Check if V + 6.5 V is started. Also check if the FU3801 on the DIGITAL Assy has been melted.
Installation environment	SENSOR Assy (IC3901)	If TEMP1 that is read by the module microcomputer is 85 °C or higher, a shutdown will be generated.
Installation environment Check the connection between SE1 and D24.	SENSOR Assy (IC3901)	A shutdown occurs if the reading of TEMP1 detected by the module micro-computer is -20 °C or less. Also check the connection between SE1 and D24.
Speaker terminals	JA8551	Check if any speaker cable is in contact with the chassis.
D_AMP	IC8401	Check if the AMP output is short-circuited.
Periphery of the cable between IO3 and M12, and IO4 and M13	CN7503,CN7504, CN4003,CN4004	Check if cables are firmly connected.
D_A, MP	IC8401	Check the temperature that is 125 °C or more.
Communication line between MAIN and MOD	IC7003	Check the communication lines (TXD_MOD/RXD_MOD).
Periphery of the cable between D11 and M12	CN4101,CN4105	Check if cables are firmly connected.
Communication line between IF and MAIN	IC7003,IC6501	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Communication line between MULTI and MAIN	IC7003,IC6501	Check the communication lines (TXD_ARIA/RXD_ARIA).
IIC communication line between Tuner and MAIN	U5301,IC7003	Check the communication lines (SCL_TU/SDA_TU or SCL_AV/SDA_AV).
IIC communication line between MSP/MAP and MAIN	IC8201,IC7003	Check the communication lines (SCL_AV/SDA_AV).
IIC communication line between AV-SW and MAIN	IC8001,IC7003	Check the communication lines (SCL_AV5/SDA_AV5).
IIC communication line between RGB_SW and MAIN	IC8101,IC7003	Check the communication lines (SCL_AV5/SDA_AV5).
IIC communication line between M_VDEC and MAIN	IC4702,IC7003	Check the communication lines (SCL_MB/SDA_MB).
IIC communication line between VDEC and SDRAM	IC4702,IC4802	Check the communication lines (SDRAM). Defective SDRAM
IIC communication line between ADC and MAIN	IC4801,IC7003	Check the communication lines (SCL_AV/SDA_AV).
IIC communication line between HDMI_RX and MAIN	IC4901,IC7003	Check the communication lines (SCL_MB/SDA_MB).
Communication line between IF and MAIN	IC6811,IC7003	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Dirt attached to the fan motor		Check the fan. (SD10 does not detect it at the temperature that fans do not turn.)
Periphery of the FAN CONNECT Assy		FAN NG
Periphery of the cable between FA1 and FA3		Check if cables are firmly connected.
Periphery of the fan control regulator	IC4303	Check that the voltage outputs it.
Ambient temperature		TEMP2 A shutdown occurs because of high temperature.
Temperature sensor or its periphery	TH7891	TEMP2
Periphery of the cable between IO4 and M13	CN7504,CN4004	Check if cables are firmly connected.
Startup of BCM7404	IC6001	Check the startup of the BCM7404 and the communication line with MAIN.
Communication line between BCM7404 and MAIN	IC6001	Check the startup of the BCM7404 and the communication line with MAIN.
Periphery of the BCM7404	IC6001	
Front-end block	IC6001,U5301	Check the BCM7404 and periphery circuit.
DTV application	IC6001	
COFDEM	IC5401	Check the communication line between BCM7404 and COFDEM.
Tuner S2	U9101	Check the communication line between COFDEM and F.E..
S2DEMOD	IC9102	Check the communication line between BCM7404 and S2DEMOD.
LNB	IC8901	Check the communication line between BCM7404 and LNB.
RST2 V+3_4V_ACT2, V+3_3V_D3	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V, V+3_4V_D	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V, V+3_4V_D	POWER SUPPLY Unit	Check if each voltages are started.
Check the cables M2 and M3.	CN4207, CN4210	Check if cables are firmly connected.
IIC communication line between EEPROM and MAIN	IC7004, IC7003	Check the communication lines (SCL_EP/SDA_EP)
DTV Antenna supply power	IC4304	Check the IC4304 and periphery device.
Satellite Antenna supply power	IC8901	Check the IC8901 and periphery device. (This Log is correspondence to the running change.)

1234

4. DISASSEMBLY

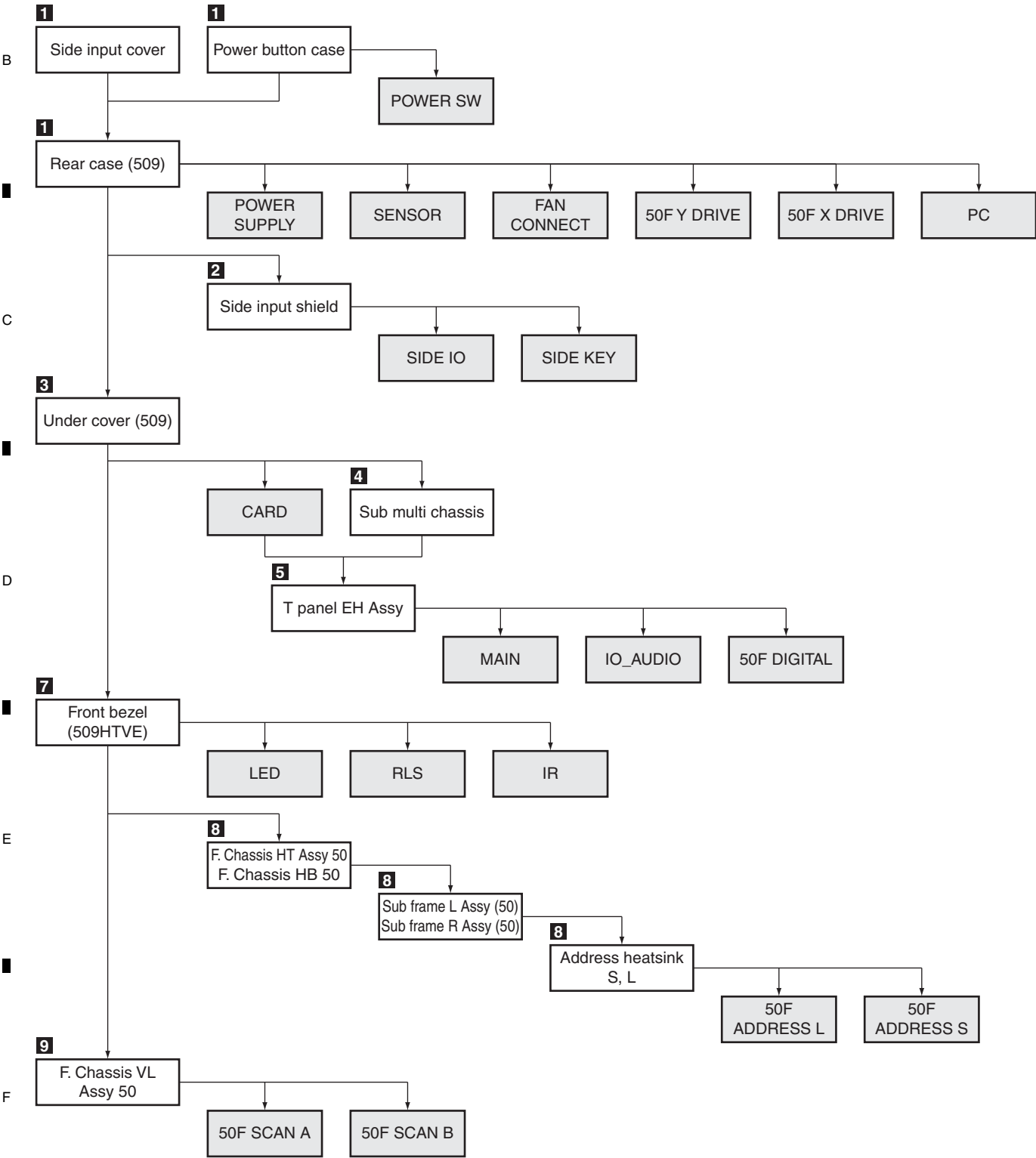
4.1 FLOWCHART OF REMOVAL ORDER

A

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Flowchart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



Disassembly

1 Rear Case (509)

● Power button case

① Remove the two screws. (ABA1379)

② Remove the power button case.

● Side input cover

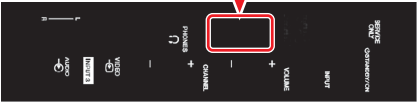
③ Remove the two screws. (ABA1378)

④ Remove the two screws. (ABA1377)


⑤ Remove the side input cover.

A cutout for an HDMI connector is provided on the side input cover, and the side label is attached over the cutout. Be careful not to accidentally push on the area of the label indicated in the figure below, because that area will become indented.

Side label




Side input cover

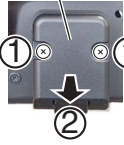


● Screw tightening order

The other screws are random order.




Power button case



POWER SW Assy

● Screw tightening order



● Rear case (509)



⑥ Remove the two screws. (ABA1380)

⑦ Remove the two screws. (ABA1379)

⑧ Remove the 25 screws. (ABA1377)

⑨ Remove the rear case (509).

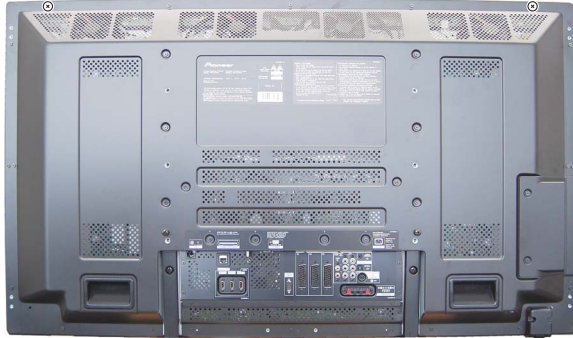
Reference

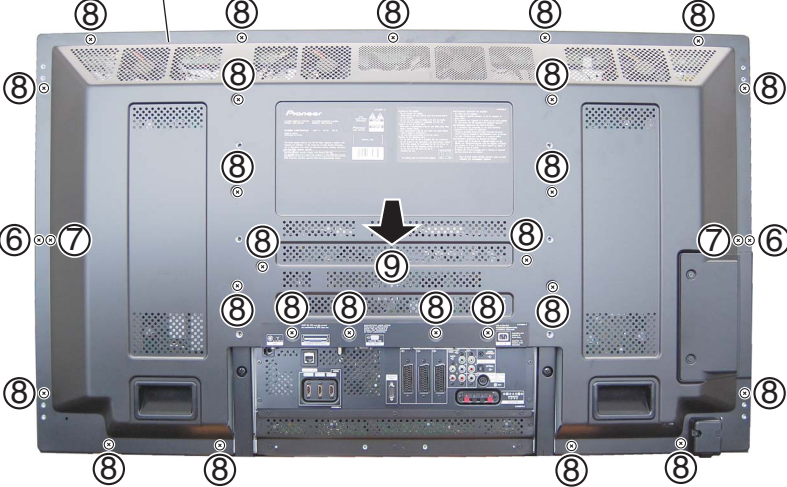
ABA1377 ABA1378

● Screw tightening order

The other screws are random order.



Rear case (509)



PDP-LX5090H

5

6

7

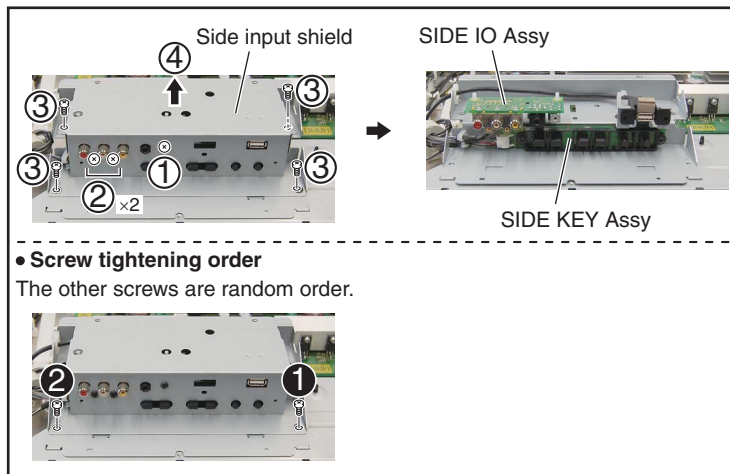
8

43

A

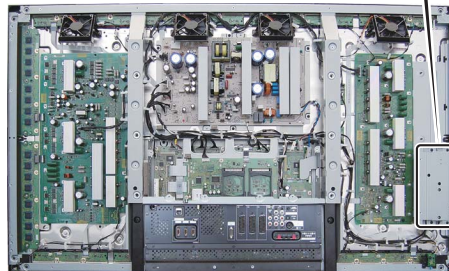
2 Side Input Shield

- ① Remove the one screw. (BMZ30P080FTB)
- ② Remove the two screws. (BPZ30P080FTB)
- ③ Remove the four screws. (AMZ30P060FTB)
- ④ Remove the side input shield.



B

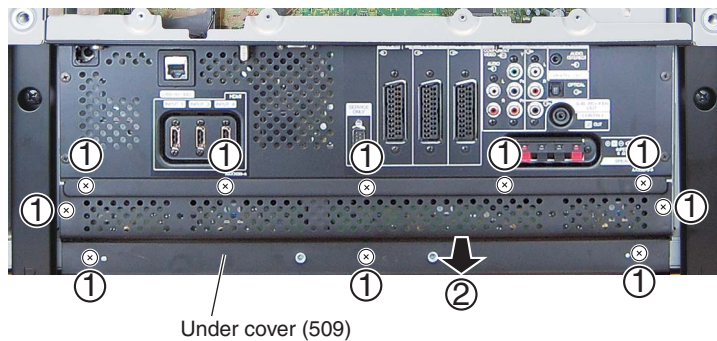
C



D

3 Under Cover (509)

- ① Remove the 10 screws. (ABA1377)
- ② Remove the under cover (509).



E

Screw tightening order

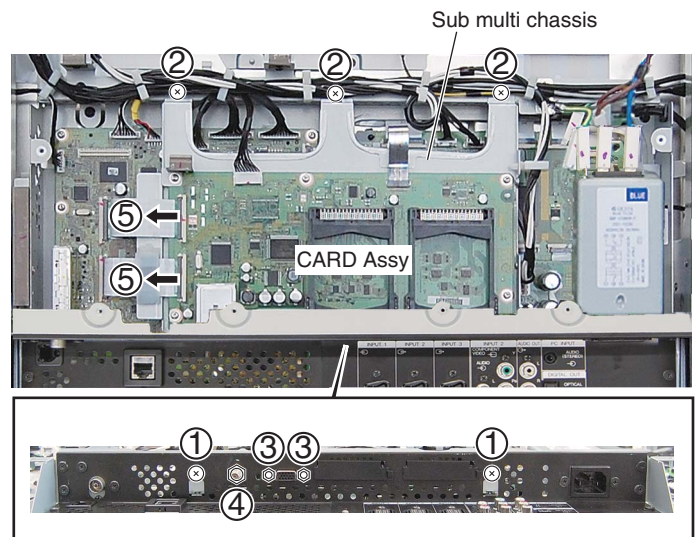
The other screws are random order.



F

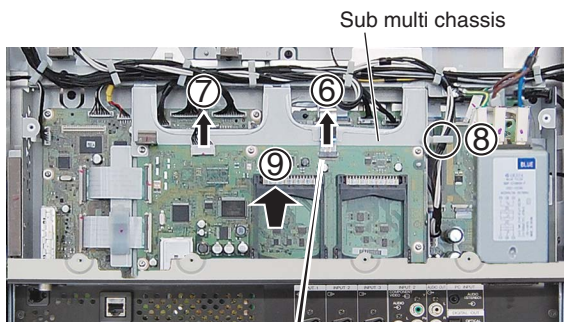
4 Sub Multi Chassis

- ① Remove the two screws. (ABA1377)
- ② Remove the three screws. (AMZ30P060FTB)
- ③ Remove the two hexagon head screws. (ABA1382)
- ④ Remove the one washer faced nut. (BBN1005)
- ⑤ Disconnect the two flexible cables.



Exchange

- ⑥ Disconnect the one flexible cable.
- ⑦ Disconnect the one connector.
- ⑧ Release the jumper wire from the wire saddle.
- ⑨ Remove the sub multi chassis with PC board.



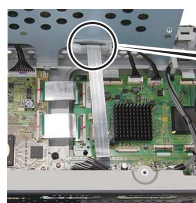
Note on connection

IO_AUDIO Assy side

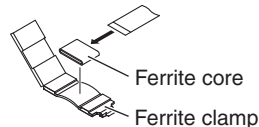
Folded side

CARD Assy side

Part number marking

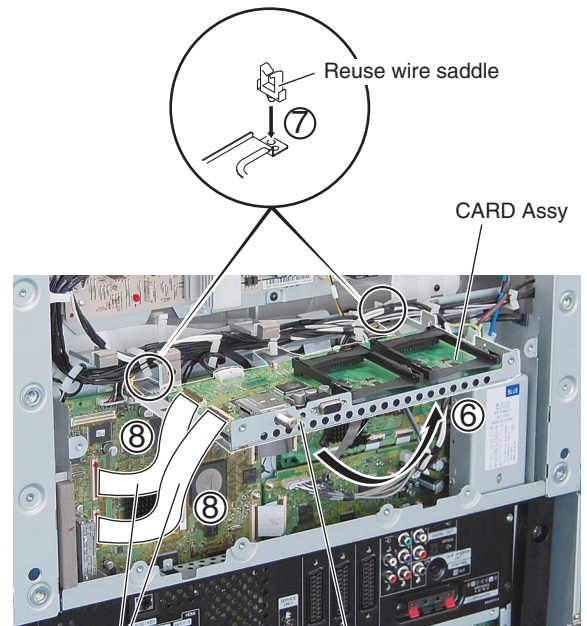


Do the flexible cable through the ferrite core.



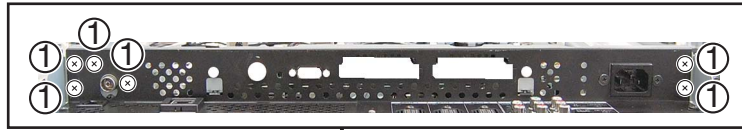
Diagnosis

- ⑥ Lift the sub multi chassis to the direction of the arrow.
- ⑦ Fix the sub multi chassis to the product with two reuse wire saddles.
- ⑧ Connect the two flexible cables for service.

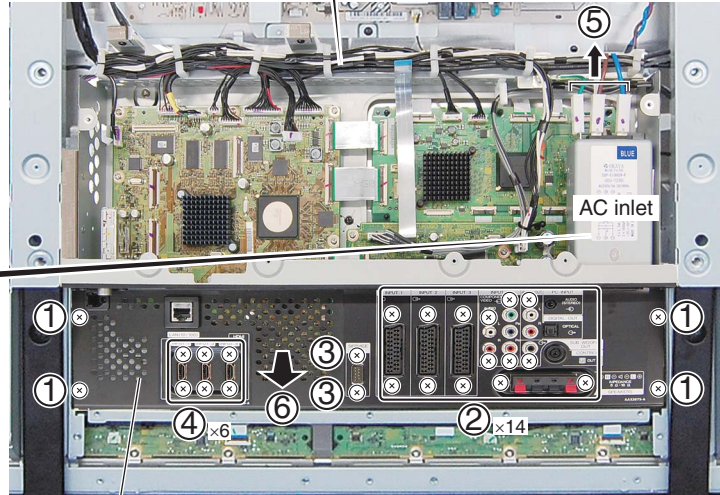
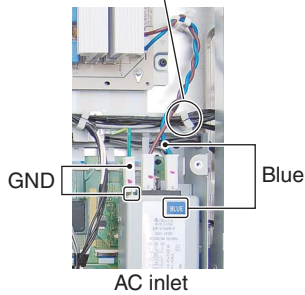


5 T Panel EH Assy

- ① Remove the 10 screws. (ABA1377)
- ② Remove the 14 screws. (BPZ30P080FTB)
- ③ Remove the two hexagon head screws. (ABA1382)
- ④ Remove the six screws. (BMZ30P060FTB)
- ⑤ Disconnect the three connectors.
- ⑥ Remove the T panel EH Assy.



Do NOT pass the AC inlet jumper wire through this wire saddle.



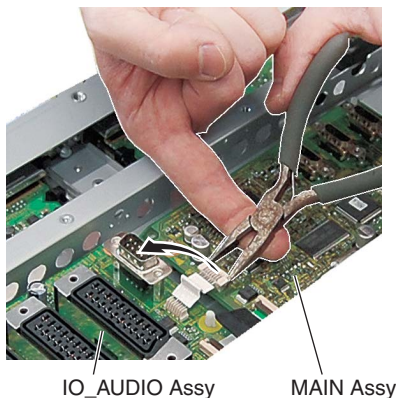
T panel EH Assy



Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

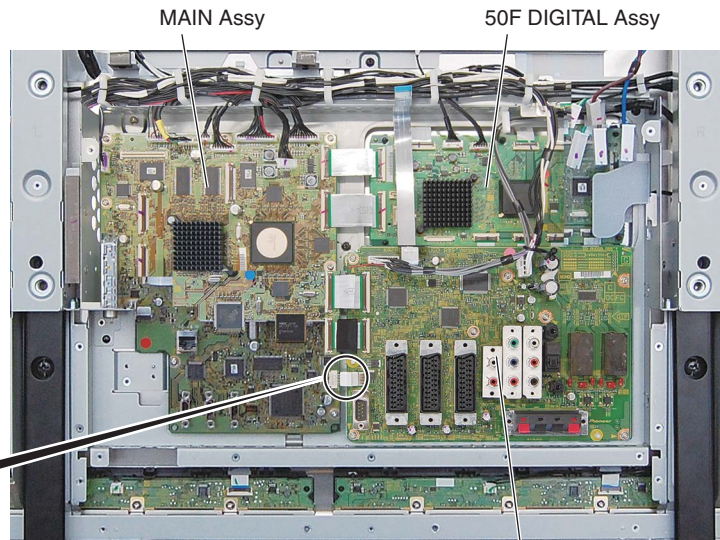
How to remove the bridge connector

- (1) Grip the two short edges of the connector with longnose pliers.
- (2) Insert a finger between the longnose pliers and the board to protect the board and the mounted parts on the board from accidental damage by the pliers then, using your finger as a fulcrum and the pliers as a lever, pry the connector upward to remove it.



IO_AUDIO Assy

MAIN Assy



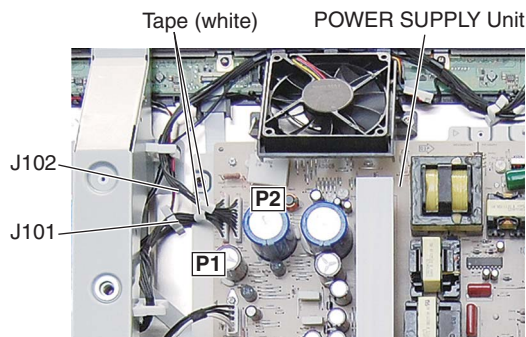
IO_AUDIO Assy



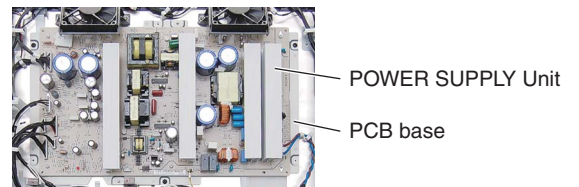
Notes on Lead Dressing

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

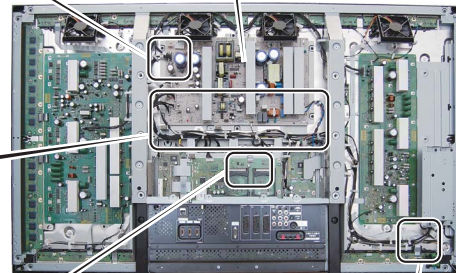
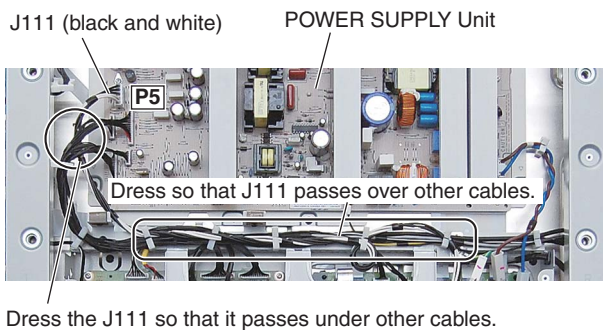
The J101 and J102 cables require correct orientation for connection. Connect the connectors with white tape to the POWER SUPPLY Unit.



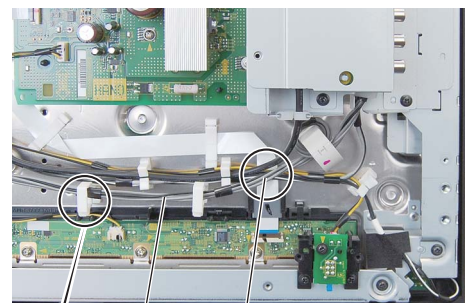
When removing the POWER SUPPLY Unit, be sure to remove not only the POWER SUPPLY Unit but entire PCB base.



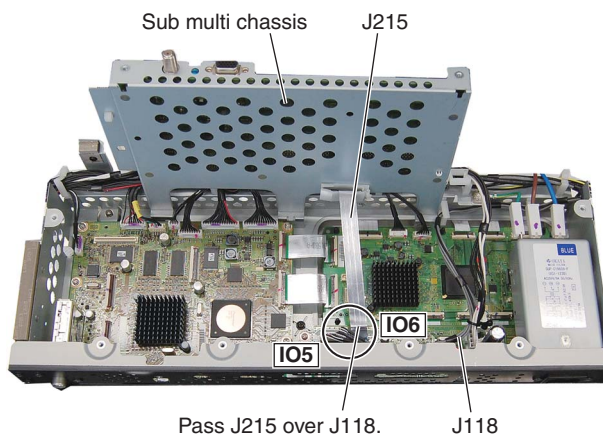
Around the periphery of the Multibase, the J111 cable wires (black and white) must be bound lastly then be dressed so that they pass over other cables.



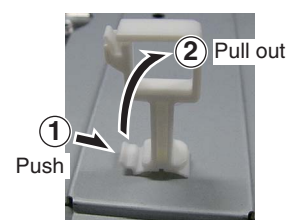
Dress the J118 cable so that it passes over other cables.



The J215 cable must be passed over the J118 cable.



How to remove the newly adopted wire saddle from the chassis



6 Access to 50F DIGITAL Assy

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

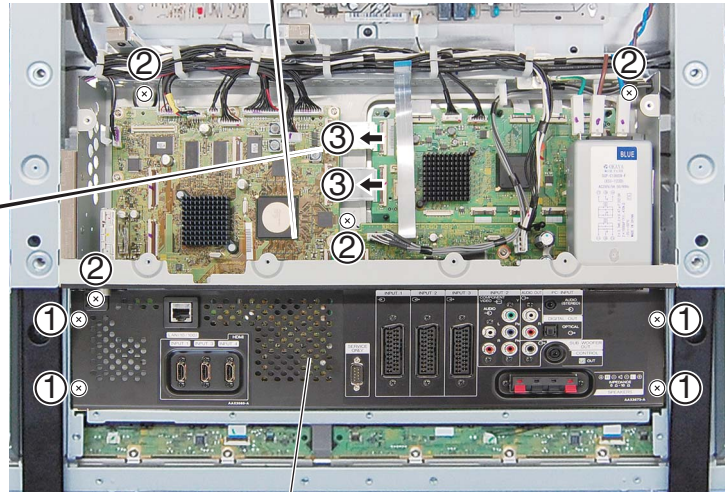
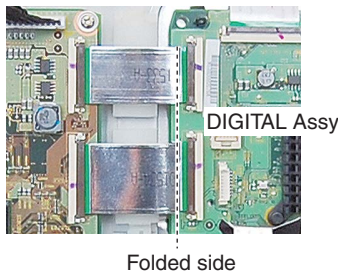
Note:

When you remove whole Multibase Section, it is not necessary to remove T panel EH Assy.

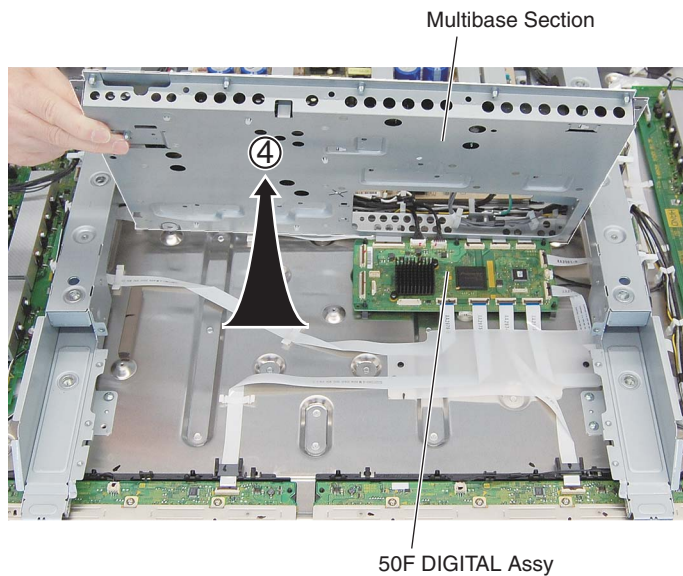
- ① Remove the six screws. (ABA1377)
- ② Remove the four screws. (ABA1351)
- ③ Disconnect the two flexible cables.

Note on connection of the flexible cable

This flexible cables requires correct orientation for connection. Connect the folded side of the cable to the connector on the DIGITAL Assy, as shown in the photo below. **Reversely connecting the cable will damage the Assy.**

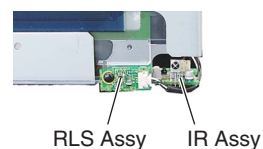
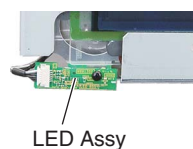
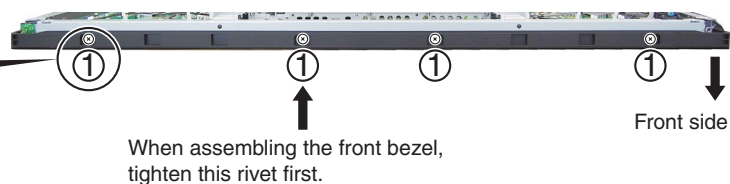
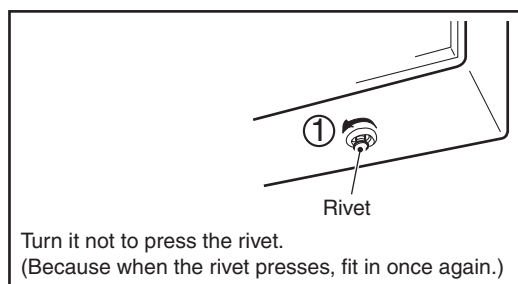
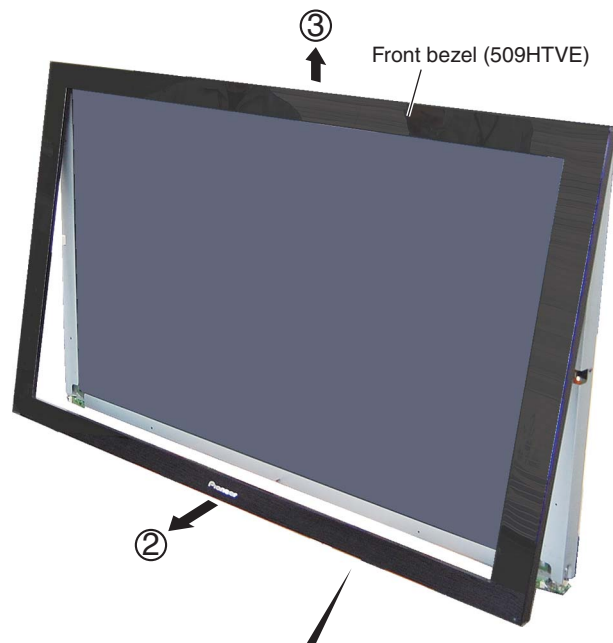


- ④ Lift the Multibase Section to the direction of the arrow.



7 Front Bezel (509HTVE)

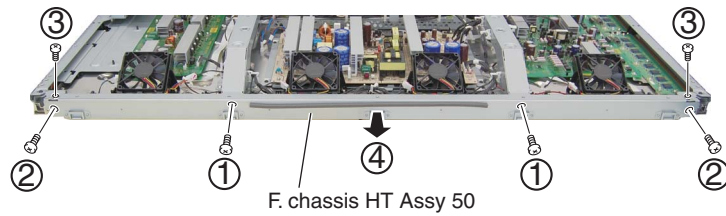
- ① Remove the four rivets.
- ② Pull the lower part of the front bezel (509HTVE) toward you and out.
- ③ Remove the front bezel (509HTVE), by pulling it upward.



8 Access to ADDRESS L and S Assys

● F. Chassis HT Assy 50

- ① Remove the two screws. (AMZ30P060FTB)
- ② Remove the two screws. (ABZ30P080FTC)
- ③ Remove the two screws. (AMZ30P060FTB)
- ④ Remove the F. chassis HT Assy 50.



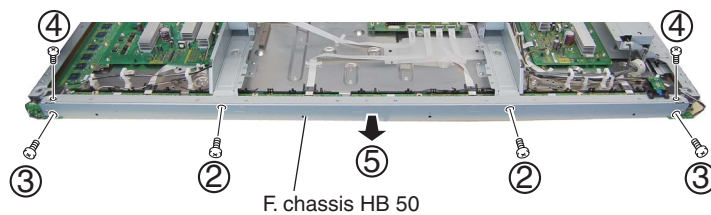
■ Screw tightening order

The other screws are random order.



● F. Chassis HB 50

- ① Disconnect cables, connectors, as required.
- ② Remove the two screws. (AMZ30P060FTB)
- ③ Remove the two screws. (ABZ30P080FTC)
- ④ Remove the two screws. (AMZ30P060FTB)
- ⑤ Remove the F. chassis HB 50.



■ Screw tightening order

The other screws are random order.

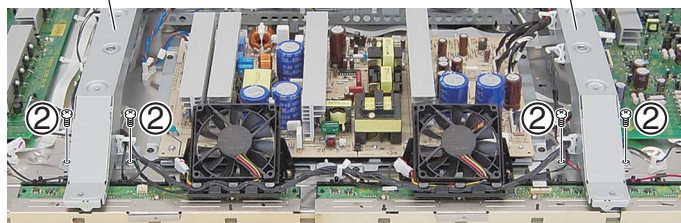


● Sub frame L and R Assys

- ① Disconnect cables, connectors, as required.
- ② Remove the four screws. (TBZ40P060FTC)

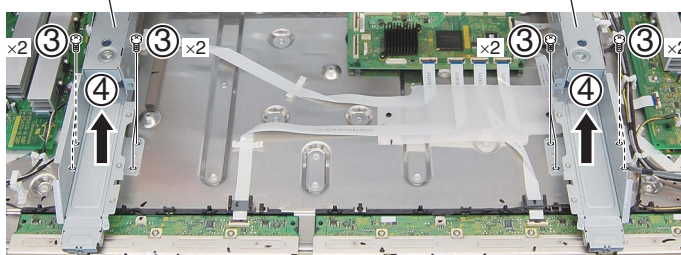
Sub frame R Assy (50)

Sub frame L Assy (50)



Sub frame L Assy (50)

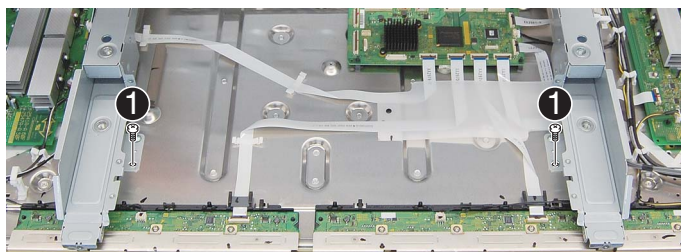
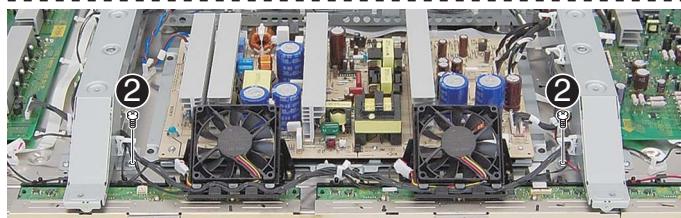
Sub frame R Assy (50)



- ③ Remove the eight screws. (TBZ40P060FTC)
- ④ Remove the sub frame L and Assys.

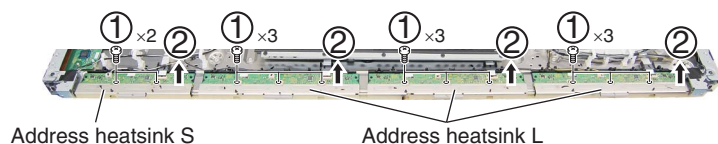
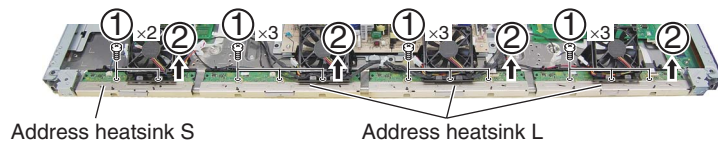
■ Screw tightening order

The other screws are random order.



● Address heatsink S , L

- ① Remove the 22 screws. (ABA1351)
- ② Remove the two address heatsinks S and six address heatsinks L.



PDP-LX5090H

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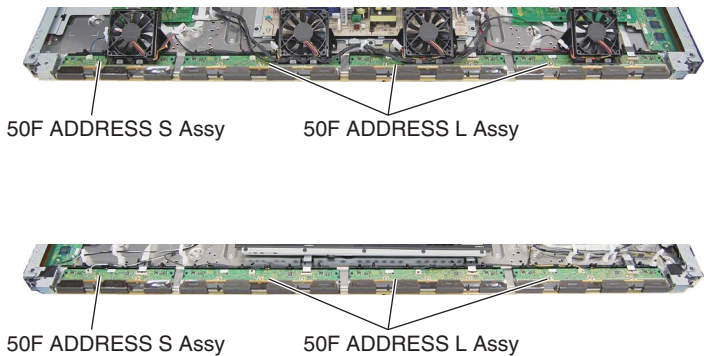
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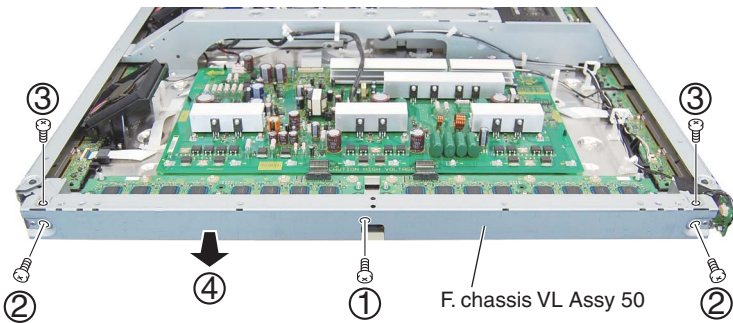
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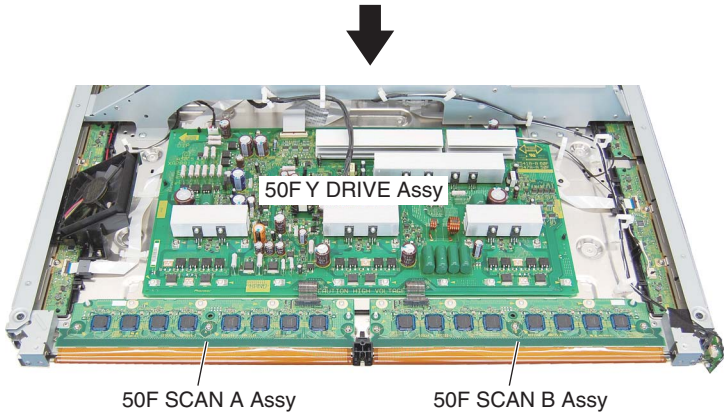


9 Access to SCAN A and B Assys

- ① Remove the one screw. (APZ30P080FTB)
- ② Remove the two screws. (ABZ30P080FTC)
- ③ Remove the two screws. (AMZ30P060FTB)
- ④ Remove the F. chassis VL Assy 50.



Screw tightening order
The other screws are random order.





1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

5.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

For each setting and adjustment when each PCB Assy and parts are replaced, refer to the original service manual (ARP3480).

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA” .
DIGITAL Assy	➡	Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”.
X DRIVE Assy	➡	No adjustment required
Y DRIVE Assy	➡	No adjustment required
Service Panel Assy	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA” and “8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED”.
MAIN Assy (*)	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
IO AUDIO Assy	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
PANEL SENSOR Assy	➡	No adjustment required Backup data are automatically copied during the next power-off.
CARD Assy	➡	No adjustment required
Other assemblies	➡	No adjustment required

(*) : When replacing the MAIN Assy, be sure to perform the FINAL SETUP.

■ When any of the following assemblies is repaired

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.

If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2556	MAIN Assy	IC5002	EEPROM	BR24L02FV-W
		IC5003	EEPROM	BR24L02FV-W
		IC5004	EEPROM	BR24L02FV-W
		IC6001	System IC	BCM7404XKPB11G
		IC7004	EEPROM	BR24L64F-W
		IC6201	DDR SDRAM	EDD5116AFTA-5B-E
		IC6202	DDR SDRAM	EDD5116AFTA-5B-E
		IC6203	DDR SDRAM	EDD5116AFTA-5B-E
		IC6204	DDR SDRAM	EDD5116AFTA-5B-E
		IC6403	Flash ROM	AGC1083
		IC6701	Flash ROM	AGC1079
		IC6811	Flash UCOM	AGC1072
AWW2543	DIGITAL Assy	IC7202	Flash ROM	AGC1074
		IC3302	Flash ROM	AGC1071
AWV2558	CARD Assy	IC3601	Flash UCOM	AGC1070
		IC9602	EEPROM	BR24L01AFJ-W
AWW2546	X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWW2547	Y DRIVE Assy	• Parts of Y VF D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 2		

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

For the parts described in the table below, replacement of individual parts is difficult, because a heat pad is provided under the bottom of the ICs.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2556	MAIN Assy	IC4501	DC/DC Converter	LTC3407EMSE-2
		IC4901	HDMI Rx	SII9125CTU
AWW1354	IO AUDIO Assy	IC8401	Digital Amp	TAS5122DCA

POWER SUPPLY Unit	➡	The assembly must be replaced as a unit, and no part replacement is allowed.	A
MAIN Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED."	
IO AUDIO Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED."	
DIGITAL Assy	➡	No adjustment required	B
X DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED."	
Y DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED."	
ADDRESS Assy	➡	No adjustment required	C
PANEL SENSOR Assy	➡	No adjustment required	
CARD Assy	➡	No adjustment required	
Other assemblies	➡	No adjustment required	

D

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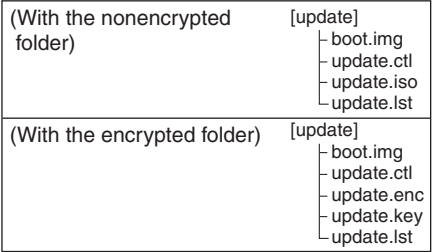
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■ Preparation

Expand the image-file folder for USB updating in the root directory of the USB memory device.

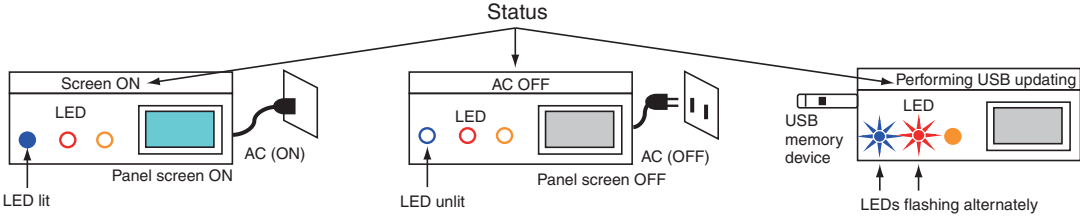
Example: Folder construction after expansion in the root directory of the USB memory device



An encrypted image-file folder for USB updating will be released for general users.

B

■ Description of the figures

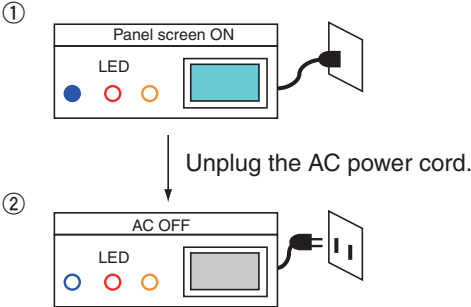


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■ Procedures

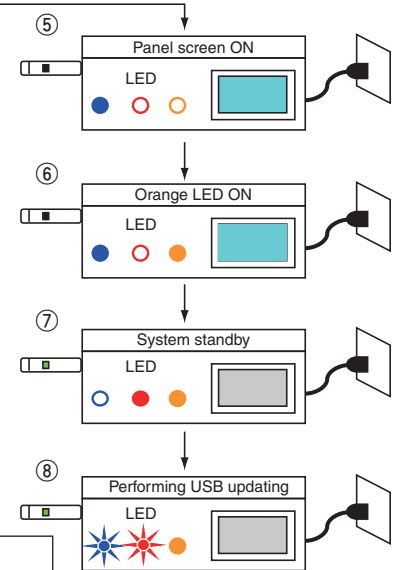
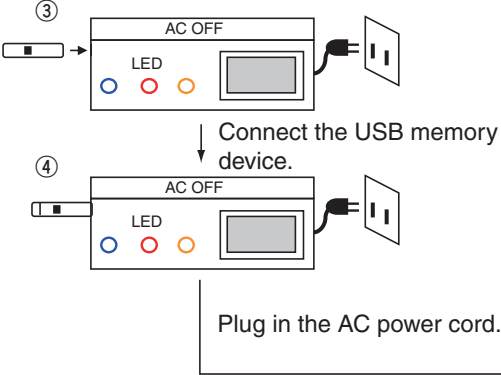
1. Setting before USB updating

Change the power status of the Panel from Screen ON to AC OFF.



2. Performing USB updating

Connect the USB memory device then set the unit to AC ON.



Note:
If you interrupt the updating procedure in this step, updating is not started, and normal startup will begin.

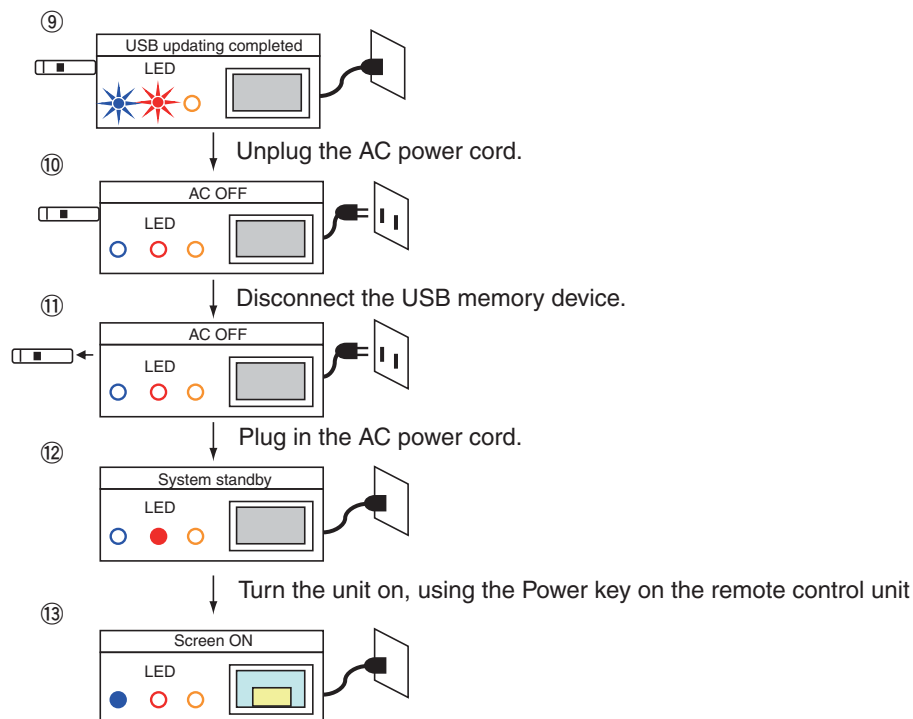
NEVER use the remote control unit.
(Especially DO NOT use the Power key.)

F

If you use any key on the remote control unit in Steps 5 and 7:
If the unit does not shift to Step 8, disconnect the USB memory device then try the procedures from the beginning.
If the unit shifts to Step 8, continue the updating procedures as described.

3. Completion procedures for USB updating

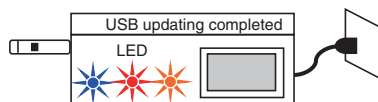
After USB updating is completed, perform the following steps (unplug the AC power cord, disconnect the USB memory device, then plug the AC power cord back in).



The GUI indicating that updating is completed is displayed.

List of frequency of LED flashing (orange) when updating fails

If updating is interrupted, the orange LED flashes to warn you of the error.



Frequency of Orange LED Flashing	Error Content	Details
1	(Not used)	
2	Version error	The same version or a newer version of software has already been loaded.
3	USB update startup error	Startup of USB updating failed.
4	DTV update error	Updating of the DTV software failed.
5	Main download error	Updating of the MAIN microcomputer software failed.
6	ARIA download error	Updating of the ASIC software in the previous stage failed.
7	ZEUS download error	Updating of the ASIC software in the later stage failed.
8	Module download error	Updating of the module microcomputer software failed.
9	IF download error	Updating of the IF microcomputer software failed.
10	USB disconnection	Abnormality in the USB memory device
11 to 13	Reserved	-
14	Destination error	The software for a different destination (Europe/North America/Australia) was used for updating.

Example: In a case where the orange LED flashes twice (version error)
Repetition of 1-sec flashing twice followed by a 2.5-sec pause (OFF)



Under the following conditions, USB updating procedures will be interrupted at Step ⑤ above, and normal startup will begin, but the LED does not flash for error indication.

Conditions under which the LED will not flash for error indication

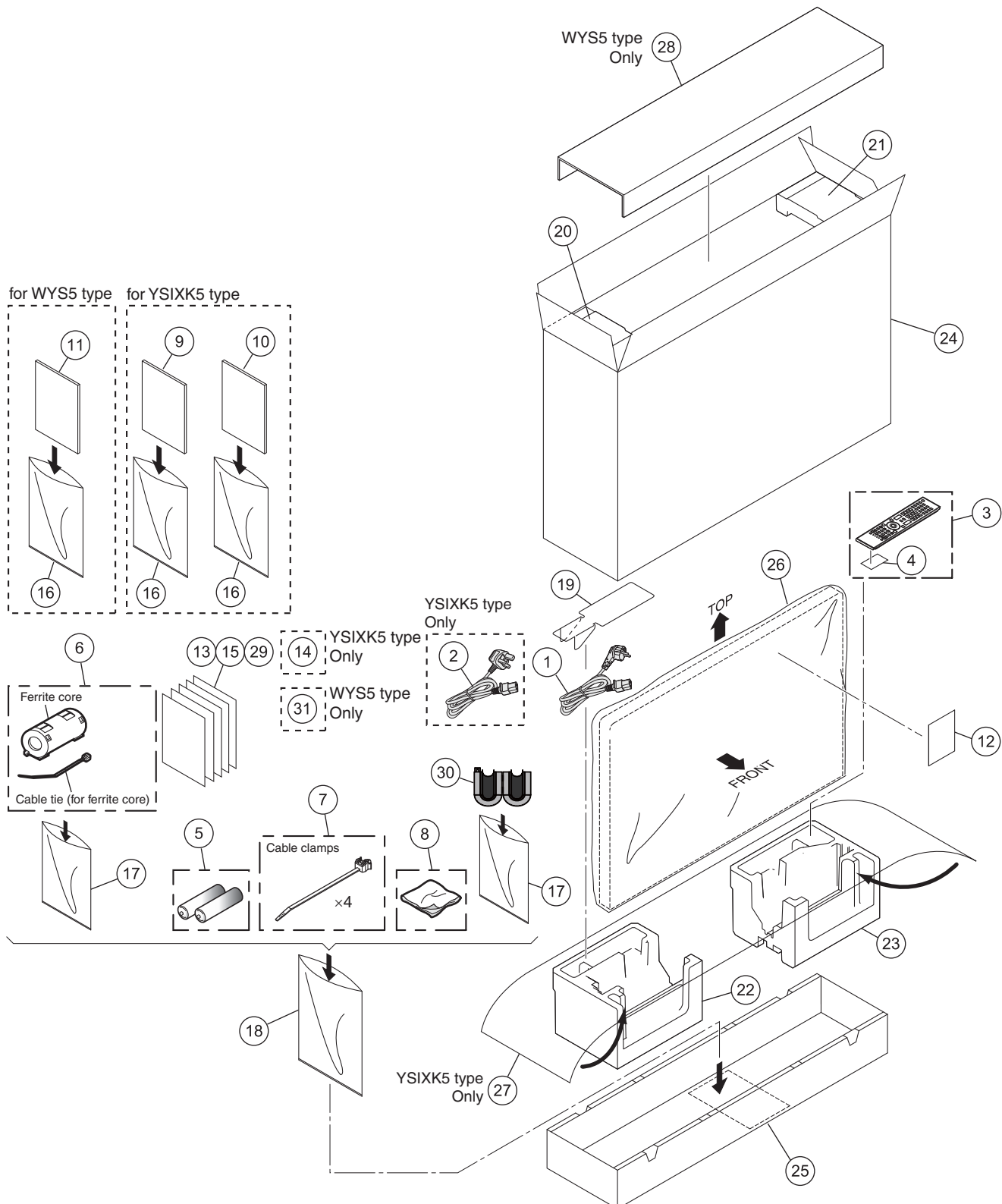
- Any USB updating file is damaged
- Not all USB updating files are stored in the USB memory device
- The USB updating files are modified
- The USB memory device is defective

6. EXPLODED VIEWS AND PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

- The \triangle mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Screws adjacent to ▼ mark on product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

6.1 PACKING SECTION



(1) PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
⚠	1	Power Cable (2 m)	ADG1214		13	Cleaning Caution	See Contrast table (2)
⚠	2	Power Cable (2 m)	See Contrast table (2)		14	Block Diagram (509)	See Contrast table (2)
	3	Remote Control Unit	AXD1563	NSP	15	Warranty Card EU	See Contrast table (2)
	4	Battery Cover (Black)	AZN2784		16	Vinyl Bag	AHG1310
NSP	5	Dry Cell Battery (R6, AA)	VEM1031		17	Vinyl Bag	AHG1337
⚠	6	Ferrite Core	ATX1039	NSP	18	Vinyl Bag	AHG1340
	7	Binder Assy	AEC2158		19	Power Cord Lid (5090)	See Contrast table (2)
	8	Cleaning Cloth	AED1285		20	Pad (509 T-L EU)	See Contrast table (2)
	9	Operating Instructions (English / French / German)	See Contrast table (2)		21	Pad (509 T-R EU)	See Contrast table (2)
					22	Pad (509 B-L EU)	See Contrast table (2)
	10	Operating Instructions (Italian / Dutch / Spanish / Russian)	See Contrast table (2)		23	Pad (509 B-R EU)	See Contrast table (2)
	11	Operating Instructions (Russian)	See Contrast table (2)		24	Upper Carton (5090H)	See Contrast table (2)
	12	Caution Card	See Contrast table (2)		25	Under Carton (5090)	See Contrast table (2)
					26	Mirror Mat	AHG1284
					27	HD Sheet	See Contrast table (2)
					28	Carton Board (509)	See Contrast table (2)
					29	Ferrite Core Info.	See Contrast table (2)
				⚠	30	Filter	CTX1089
					31	WMDRM Infomation	See Contrast table (2)

(2) CONTRAST TABLE

PDP-LX5090H/YSIXK5 and WYS5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX5090H /YSIXK5	PDP-LX5090H /WYS5
⚠	2	Power Cable (2 m)	ADG1223	Not used
	9	Operating Instructions (English / French / German)	ARE1490	Not used
	10	Operating Instructions (Italian / Dutch / Spanish / Russian)	ARC1604	Not used
	11	Operating Instructions (Russian)	Not used	ARC1617
	12	Caution Card	ARM1310	ARM1232
	13	Cleaning Caution PTK	ARM1311	Not used
	13	Cleaning Caution (11L)	Not used	ARM1283
	14	Block Diagram (509)	ARY1210	Not used
NSP	15	Warranty Card EU	ARY7112	ARY7110
	19	Power Cord Lid (5090)	AHC1113	AHC1114
	20	Pad (509 T-L EU)	AHA2714	AHA2727
	21	Pad (509 T-R EU)	AHA2715	AHA2728
	22	Pad (509 B-L EU)	AHA2716	AHA2729
	23	Pad (509 B-R EU)	AHA2726	AHA2730
	24	Upper Carton (5090H)	AHD3697	AHD3698
	25	Under Carton (5090)	AHD3672	AHD3673
	27	HD Sheet	AHG1416	Not used
	28	Carton Board (509)	Not used	AHB1303
	29	Ferrite Core Info.	ARM1396	ARM1395
	31	WMDRM Infomation	Not used	ARM1404

6.2 REAR SECTION

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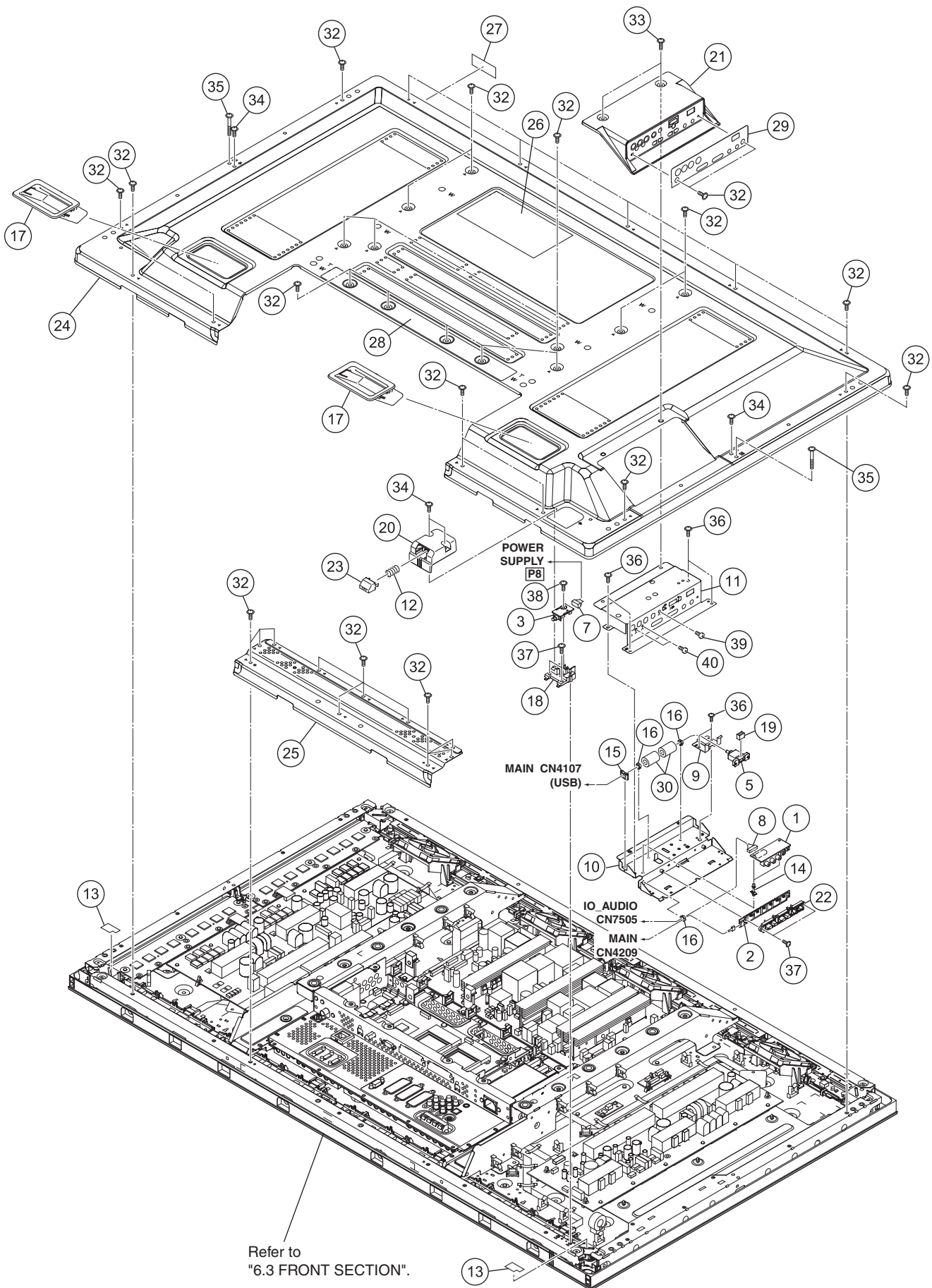
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(1) REAR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	SIDE IO Assy	AWW1358	21	Side Input Cover	AMR3754
2	SIDE KEY Assy	AWW1361	22	Operation Button	AAC1569
3	POWER SW Assy	AWW1366	23	Power Button (508F)	AAD4152
4	•••••		24	Rear Case (509)	ANE1671
5	USB Cable (J301)(120 cm)	ADF1034	25	Under Cover (509)	ANE1672
6	•••••		NSP 26	Name Label (LX5090H)	See Contrast table (2)
7	3P Housing Wire (J103)	ADX3630	27	Serial Sheet	AAX3143
8	11P Housing Wire (J118)	ADX3644	28	Label A (EH)	AAX3569
9	USB Holder	ANG3134	29	Side Label (EU)	AAK2932
10	Side Input Base	ANG3215	⚠ 30	Ferrite Core (F14, F15)	ATX1069
11	Side Input Shield	ANG3216	31	•••••	
12	Coil Spring	ABH1125	32	Screw (M3 x 6)	ABA1377
13	Sensor Cushion B (428)	AEB1486	33	Screw (M3 x 10)	ABA1378
NSP 14	PCB Spacer	AEC1084	34	Screw (3 x 8 P)	ABA1379
15	Edge Saddle	AEC1571	35	Screw (3 x 25 P)	ABA1380
16	Mini Clamp	AEC1971	36	Screw	AMZ30P060FTB
17	Inner Grip Assy	See Contrast table (2)	37	Screw	AMZ30P080FTB
18	Power Button Support	AMR3763	38	Screw	APZ30P080FTB
⚠ 19	USB Gasket	ANK1962	39	Screw	BMZ30P080FTB
20	Power Button Case	AAK2927	40	Screw	BPZ30P080FTB

(2) CONTRAST TABLE

PDP-LX5090H/YSIXK5 and WYS5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX5090H /YSIXK5	PDP-LX5090H /WYS5
	17	Inner Grip Assy	AMR3693	AMR3434
NSP	26	Name Label (LX5090H)	AAL3032	AAL3034

△

Exploded view diagram of a window frame assembly. The diagram shows the front and rear views of the frame, with various components labeled with circled numbers 1 through 8. The front view shows the frame with a central pane. The rear view shows the frame with a central pane. The diagram includes labels for 'MAIN CN4209' and 'MAIN CN4208'.

- **Rear view**

PDP-LX5090H

FRONT SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	LED Assy	AWW1362
2	IR Assy	AWW1363
3	RLS Assy	AWW1365
4	7/3/3P Housing Wire (J117)	ADX3643
5	Front Bezel (509HTVE)	AMB3086
6	Blind Cushion (508F)	AEB1479
7	Nylon Rivet	AEC1671
8	Rivet (Plastic)	AEC1877

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6.4 CHASSIS SECTION (1/2)



Cleaning paper :
GED-008

Refer to
"6.7 MULTIBASE SECTION".

FAN CONNECT
CN8762

FAN CONNECT
CN8762

FAN CONNECT
CN8763

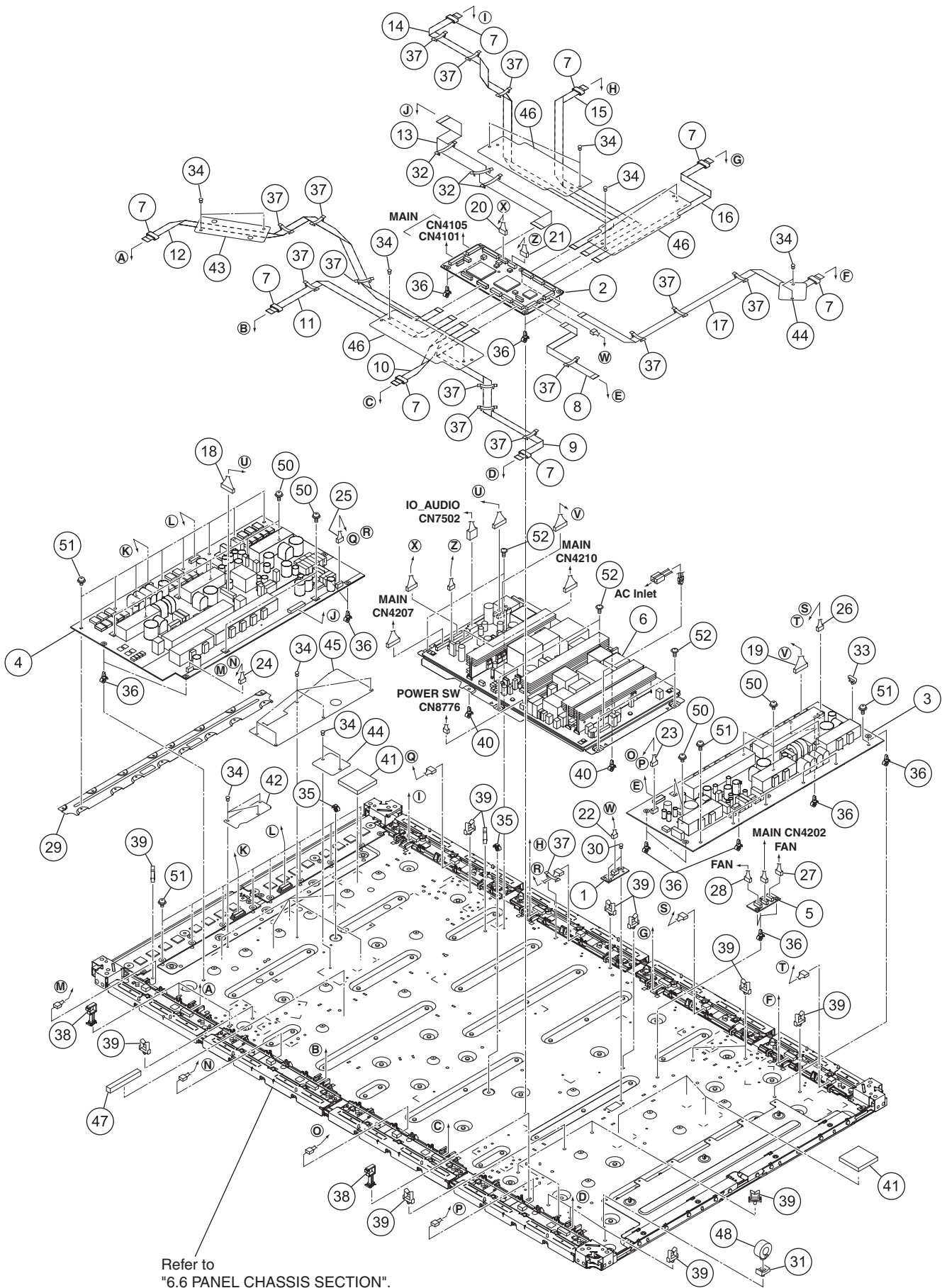
FAN CONNECT
CN8763

Refer to
"6.5 CHASSIS SECTION (2/2)".

CHASSIS SECTION (1/2) PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
⚠ 1	DC FAN Motor 80 x 15L	AXM1065
2	Sub Frame L Assy (50)	ANA2137
3	Sub Frame R Assy (50)	ANA2140
⚠ 4	F. Chassis VL Assy 50	ANA2142
⚠ 5	F. Chassis VR Assy 50	ANA2151
⚠ 6	F. Chassis HT Assy 50	ANA2144
⚠ 7	F. Chassis HB 50	ANA2188
8	Waterproof Cushion	AEB1495
9	Wire Clip	AEC1948
10	Reuse Wire Saddle	AEC2134
11	Support Bracket	AMR3762
12	FAN Bracket 80	AMR3787
⚠ 13	Gasket ADH-FCH	ANK1850
⚠ 14	Front Gasket V50	ANK1963
⚠ 15	Front Gasket H50	ANK1964
16	FC Gate Sheet	AMR3906
17	Stand Cushion	AED1340
18	Screw	ABA1351
19	Screw (M3 x 6)	ABA1377
20	Screw	ABZ30P080FTC
21	Screw	AMZ30P060FTB
22	Screw	APZ30P080FTB
23	Screw	PPZ50P100FTB
24	Screw	TBZ40P060FTC

6.5 CHASSIS SECTION (2/2)



CHASSIS SECTION (2/2) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
	1	SENSOR Assy	AWW1340	46	FFC Sheet	AMR3893
	2	50F DIGITAL Assy	AWW1347	⚠ 47	Gasket (10 x 10 x 80)	ANK1974
	3	50F X DRIVE Assy	AWV2546	⚠ 48	Ferrite Core (L1)	ATX1044
	4	50F Y DRIVE Assy	AWV2547	49	•••••	
	5	FAN CONNECT Assy	AWW1364	50	Screw	ABA1351
⚠	6	POWER SUPPLY Unit	AXY1200	51	Screw	ABA1364
⚠	7	Ferrite Core (F1 - F8)	ATX1072	52	Screw	ABZ30P060FTB
	8	Flexible Cable (J201)	ADD1540			
	9	Flexible Cable (J202)	ADD1541			
	10	Flexible Cable (J203)	ADD1542			
	11	Flexible Cable (J204)	ADD1543			B
	12	Flexible Cable (J205)	ADD1544			
	13	Flexible Cable (J206)	ADD1545			
	14	Flexible Cable (J207)	ADD1546			
	15	Flexible Cable (J208)	ADD1547			
	16	Flexible Cable (J209)	ADD1548			■
	17	Flexible Cable (J210)	ADD1549			
	18	12P/11P Housing Wire (J101)	ADX3628			
	19	11P Housing Wire (J102)	ADX3629			
	20	10P Housing Wire (J106)	ADX3632			C
	21	6P Housing Wire (J107)	ADX3633			
	22	5P Housing Wire (J108)	ADX3634			
	23	5/3/3P Housing Wire (J112)	ADX3638			
	24	5/3/3P Housing Wire (J113)	ADX3639			
	25	5/3/3P Housing Wire (J114)	ADX3640			■
	26	5/3/3P Housing Wire (J115)	ADX3641			
	27	6/3/3P Housing Wire (J120)	ADX3646			
	28	7/3/3P Housing Wire (J121)	ADX3647			
	29	Plate Y (509)	ANG3127			D
	30	Nylon Rivet	AEC1671			
	31	Ferrite Core Holder	AEC1818			
	32	Flat Clamp	AEC1879			
	33	Wire Clip	AEC1948			■
	34	Nylon Rivet	AEC2089			
	35	Reuse Card Spacer	AEC2117			
	36	PCB Spacer (Reuse)	AEC2122			
	37	Flat Clamp	AEC2132			
	38	Reuse Fastener	AEC2133			E
	39	Reuse Wire Saddle	AEC2134			
	40	Reuse PCB Spacer 4.5	AEC2148			
	41	Drive Sheet	AEH1155			
	42	Y Drive Sheet B	AMR3769			■
	43	Y Drive Sheet C	AMR3783			
	44	FAN Sheet	AMR3786			
	45	Y Drive Sheet A (M)	AMR3881			F

1 2 3 4

6.6 PANEL CHASSIS SECTION

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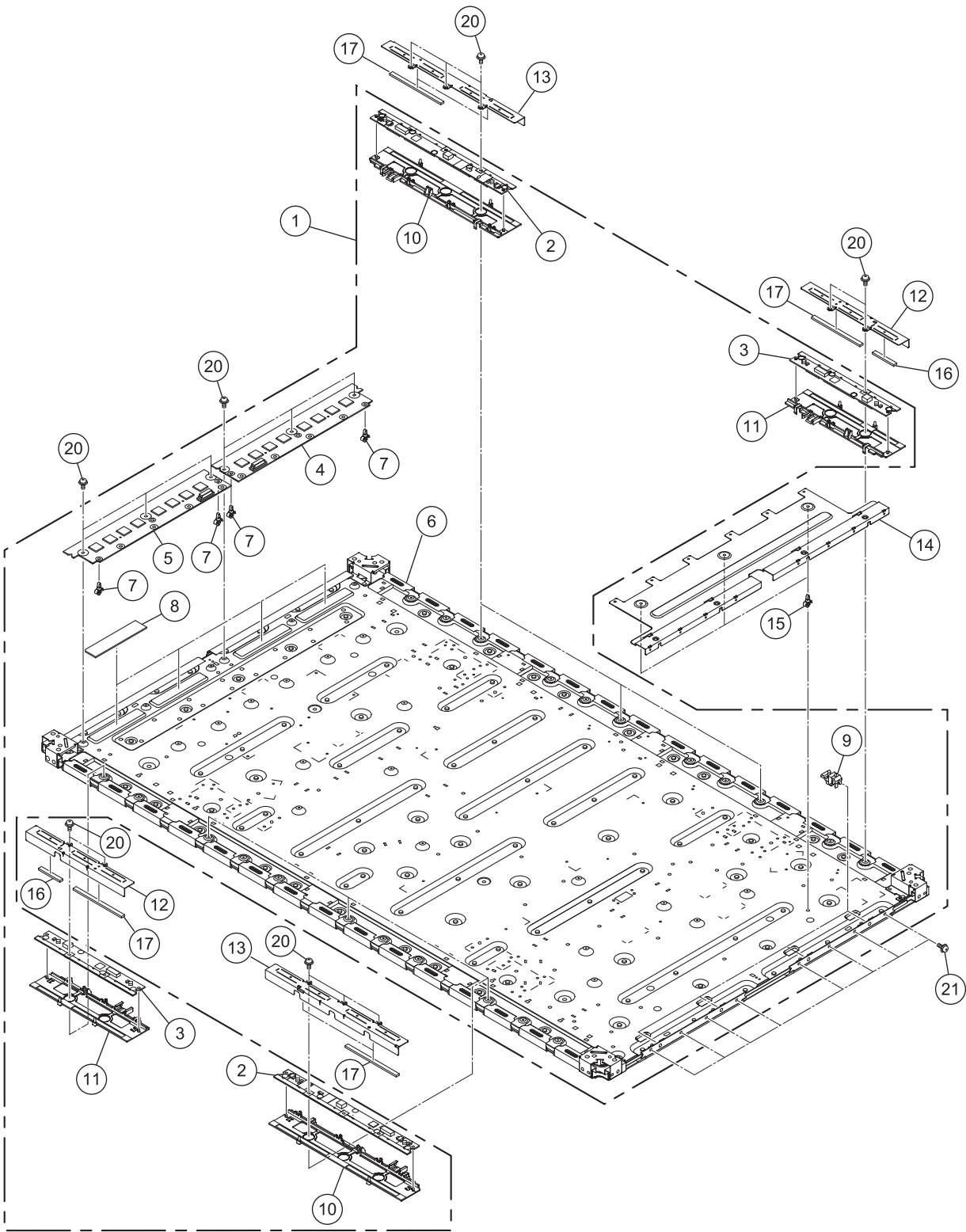
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PANEL CHASSIS SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
NSP 1	P. Chassis (509FE) Assy	AWU1297
NSP 2	50F ADDRESS L Assy	AWW1348
NSP 3	50F ADDRESS S Assy	AWW1349
NSP 4	50F SCAN A Assy	AWW1350
NSP 5	50F SCAN B Assy	AWW1351
NSP 6	P. Panel (50FE) Assy	AWU1298
7	Reuse PCB Spacer 4.5	AEC2148
8	Heat Radiation Sheet	AEH1134
9	Plate Holder	AMR3757
10	Holder L Assy (509)	AMR3775
11	Holder S Assy (509)	AMR3776
12	Address Plate S (509)	ANG3129
13	Address Plate L (509)	ANG3130
14	Plate X (509)	ANG3128
15	PCB Spacer (Reuse)	AEC2122
16	Address Silicon TS	AEH1160
17	Address Silicon TL	AEH1161
18	
19	
20	Screw	ABA1351
21	Screw	ABA1364

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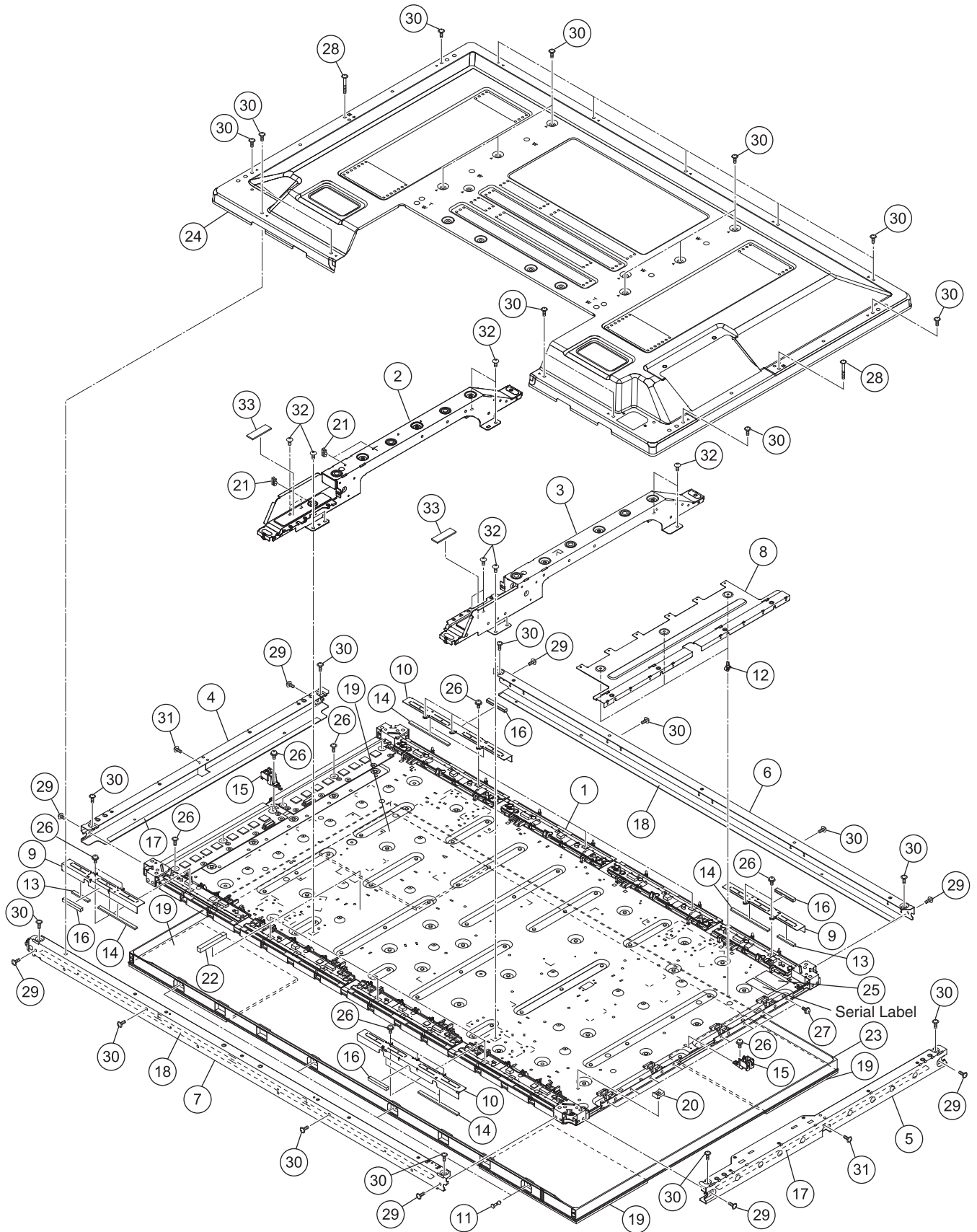
MULTIBASE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
⚠ 1	MAIN Assy	AWV2556	49	•••••		
2	IO_AUDIO Assy	AWW1354	⚠ 50	Gasket (10 x 8 x 15)	ANK1982	A
3	CARD Assy	AWV2558	51	Nylon Rivet	AEC1671	
⚠ 4	Ferrite Core (F11)	ATX1048	52	Card Lid	AMR3772	
⚠ 5	AC Inlet (CN1)	AKP1336	⚠ 53	Gasket (10 x 5 x 20)	ANK1976	
6	Flexible Cable (J211)	ADD1533	54	Washer Faced Nut	BBN1005	
7	Flexible Cable (J212)	ADD1534	55	Hexagon Headed Screw	ABA1382	
8	Flexible Cable (J213)	ADD1535	56	Screw (M3 x 6)	ABA1377	
9	Flexible Cable (J214)	ADD1536	57	Screw	AMZ30P060FTB	
10	Flexible Cable (J215)	ADD1563	58	Screw	BMP40P080FSN	
⚠ 11	Housing Wire (J105)	ADX3608	59	Screw	BMZ30P060FTB	B
⚠ 12	Housing Wire (J104)	ADX3631	60	Screw	BPZ30P080FTB	
13	14P Housing Wire (J109)	ADX3635	61	Screw	PMB30P060FNI	
14	15P Housing Wire (J110)	ADX3636				
15	5P Housing Wire (J111)	ADX3637				
16	10/6/4P Housing Wire (J116)	ADX3642				
17	4P Housing Wire (J119)	ADX3645				
18	Rubber Sheet	AEB1498				
19	Cushion	AEB1499				
20	Wire Saddle	AEC1745				C
21	Wire Saddle	AEC1797				
22	Circuit Board Spacer	AEC1872				
23	Ferrite Stopper	AEC1981				
24	Reuse PCB Spacer 4.5	AEC2136 or AEC2161				
25	PCB Spacer	AEC2146				
⚠ 26	Ferrite Core (F12)	ATX1073				
27	Clamp	AEC2156				
28	Edge Holder	AEC2159				
29	Silicon Sheet MTB A	AEH1174				D
30	Silicon Sheet MTB B	AEH1175				
31	9P Housing Wire (J124)	ADX3627				
32	Sleeve	AMR3771				
33	Ether Cover	AMR3789				
34	MTB Assy	ANA2150				
35	1..T Panel EH Assy	ANC2471				
36	2..Label B1 (ES)	AAX3573				
37	2..Label B2 (EH)	AAX3585				
38	2..Terminal Panel (EH)	ANC2466				E
39	Tuner Panel (EH)	ANG3149				
40	Flexible Cable (J216, J217)	ADD1539				
41	Earth BKT A	ANG3182				
42	Earth BKT C	ANG3184				
43	Sub Multi Chassis	ANG3148				
44	Earth BKT D	ANG3185				
⚠ 45	Gasket (10 x 10 x 80)	ANK1974				
46	Ferrite Clamp	AEC1986				
⚠ 47	Gasket (E)	ANK1981				F
48	PCB Spacer (Reuse)	AEC2122				

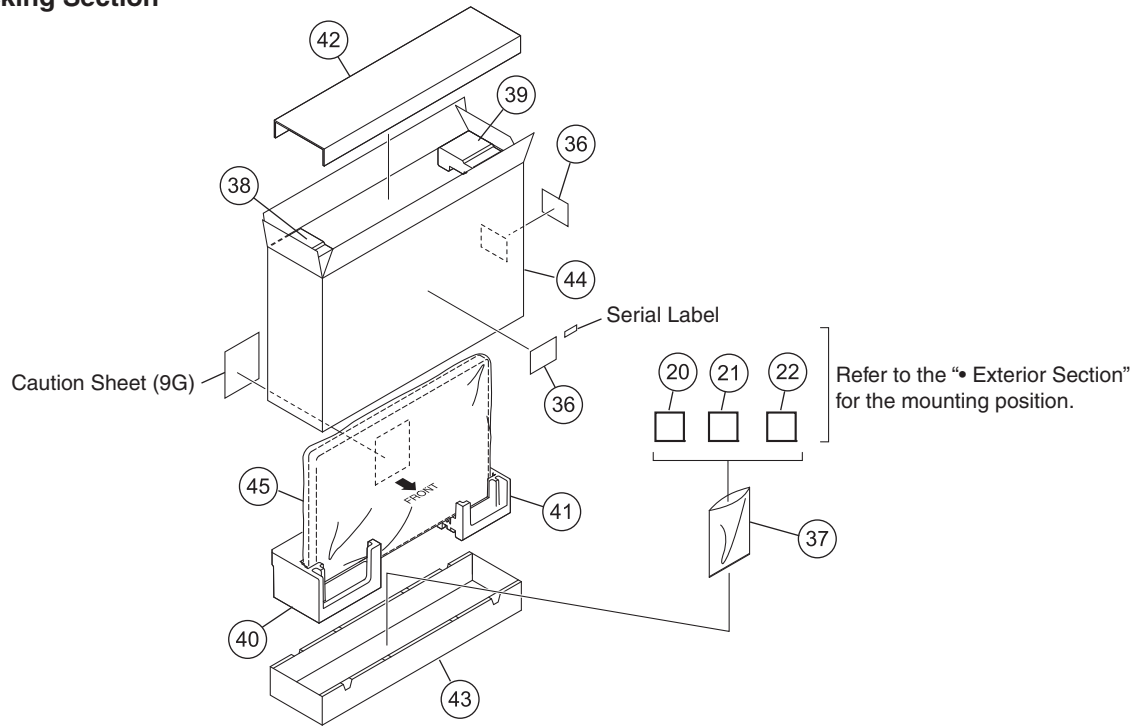
6.8 PDP SERVICE ASSY

PDP SERVICE ASSY 509FE : AWU1342

● Exterior Section



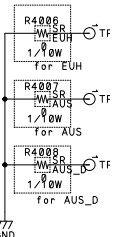
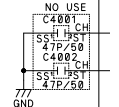
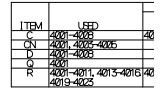
● Packing Section



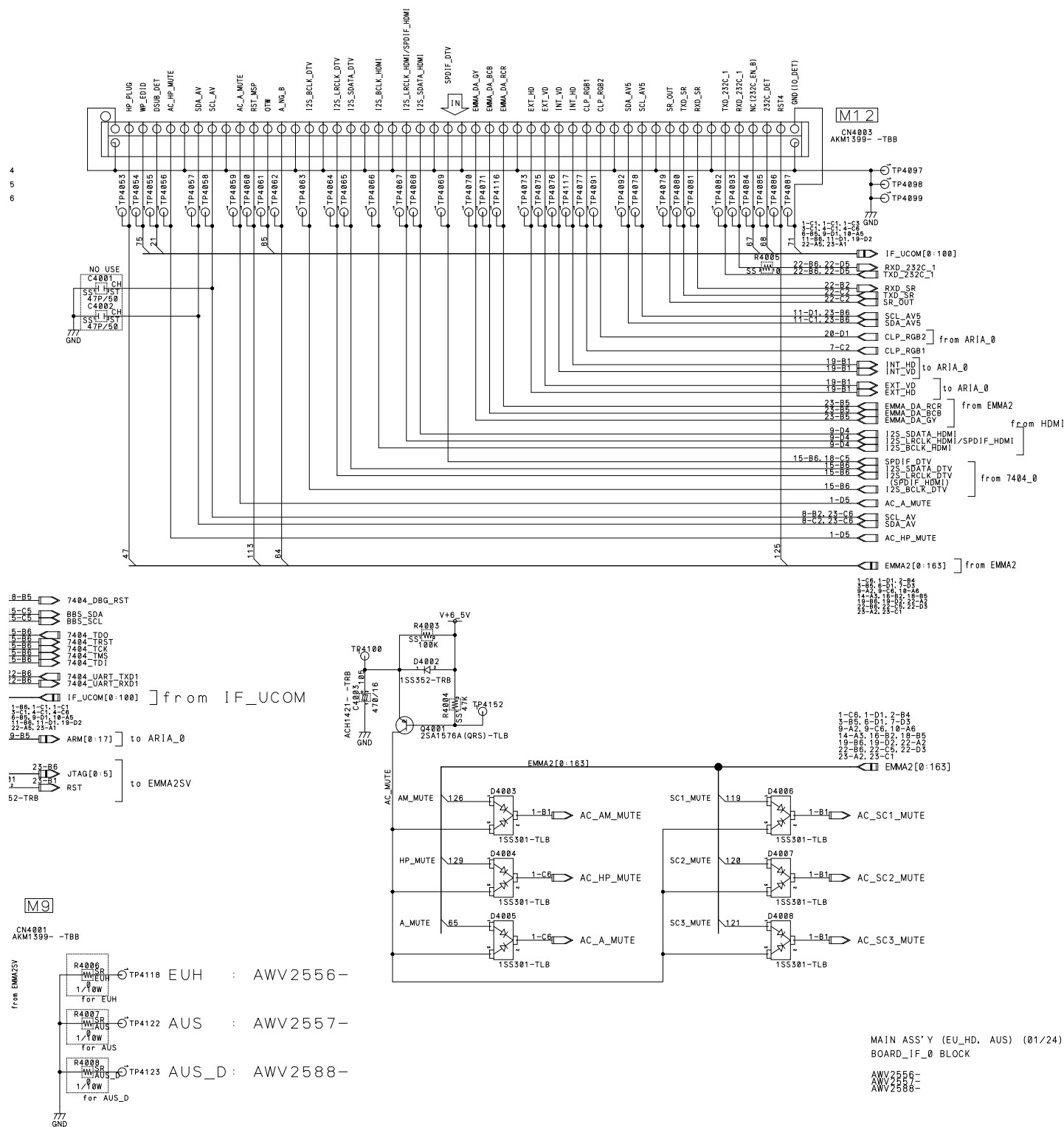
PDP SERVICE ASSY PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	P. Chassis (509FE) Assy	AWU1297	26	Screw	ABA1351
2	Sub Frame L Assy (50)	ANA2137	27	Screw	ABA1364
3	Sub Frame R Assy (50)	ANA2140	28	Screw (3 x 25 P)	ABA1380
4	F. Chassis VL Assy 50	ANA2142	29	Screw	ABZ30P080FTC
5	F. Chassis VR Assy 50	ANA2151	30	Screw	AMZ30P060FTB
6	F. Chassis HT Assy 50	ANA2144	31	Screw	APZ30P080FTB
7	F. Chassis HB 50	ANA2188	32	Screw	TBZ40P060FTC
8	Plate X (509)	ANG3128	33	Stand Cushion	AED1340
9	Address Plate S (509)	ANG3129	34	•••••	
10	Address Plate L (509)	ANG3130	35	•••••	
11	Rivet (Plastic)	AEC1877	36	Caution Label	AAX3031
12	PCB Spacer (Reuse)	AEC2122	37	Vinyl Bag	AHG1338
13	Address Silicon TS	AEH1160	38	Pad (509 T-L EU)	AHA2727
14	Address Silicon TL	AEH1161	39	Pad (509 T-R EU)	AHA2728
15	Support Bracket	AMR3762	40	Pad (509 B-L EU)	AHA2729
16	Gasket ADH-FCH	ANK1850	41	Pad (509 B-R EU)	AHA2730
17	Front Gasket V50	ANK1963	42	Carton Board (509)	AHB1303
18	Front Gasket H50	ANK1964	43	Under Carton (5090)	AHD3673
19	Service Pad	AEC2105	44	Upper Carton (509F-SV)	AHD3716
20	Ferrite Core Holder	AEC1818	45	Protect Sheet	AHG1331
21	Wire Clip	AEC1948			
22	Gasket (10 x 10 x 80)	ANK1974			
NSP 23	Front Service Assy (509)	AMB3103			
24	Rear Case (509)	ANE1671			
NSP 25	Drive Voltage Label	ARW1097			

4



ITEM	USED	VARIANT		
		BUH AV/256-	AUS AV/257-	AUS.D AV/258-
RODION	4001-4003	4001, 4002	4001, 4002	4001, 4002
	4001-4005-4006			
	4001-4003			
	4001-4003			
	4001-4003			
	4001-4011, 4015-4016	4001, 4005	4005, 4008	4005, 4007



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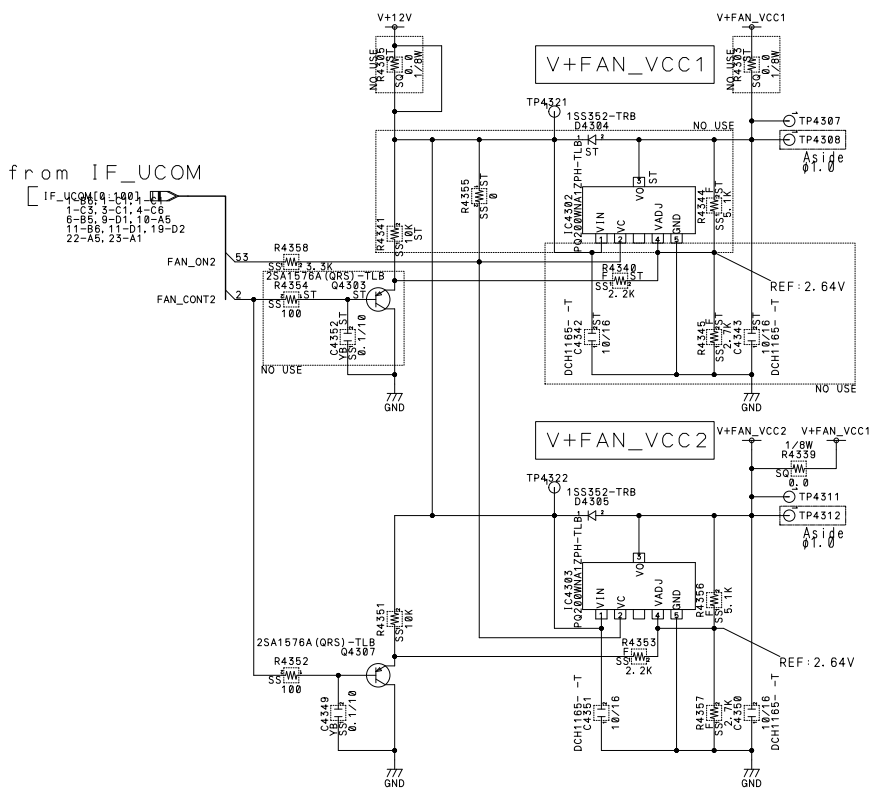
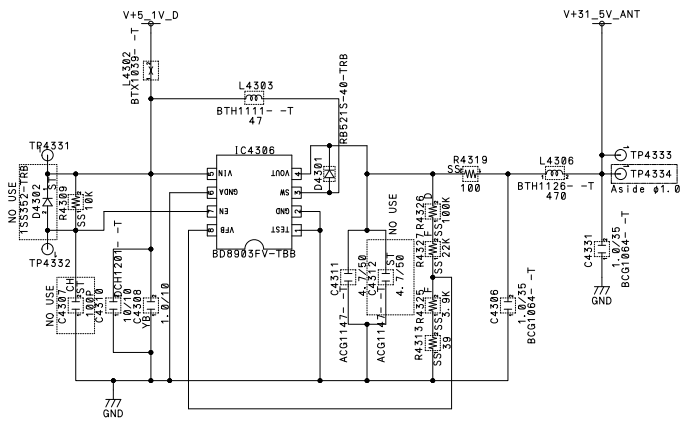
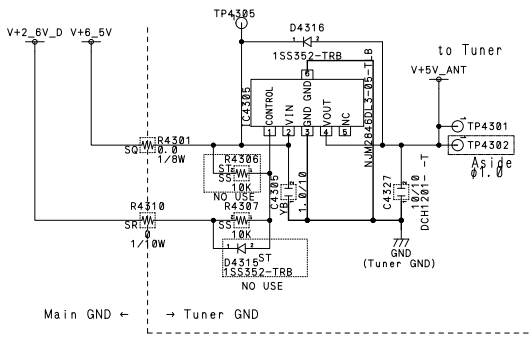
F

7.4 MAIN ASSY (4/24) [POWER_0 BLOCK]

V+5V ANT ±1% 330mAmax

V+31_5V_ANT ±4.6%-4.7% 3mAmax

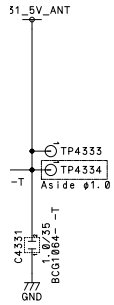
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ITEM	USED	BH	VANT
C	4305	4305	4305
D	4305	4305	4305
E	4305	4305	4305
F	4305	4305	4305

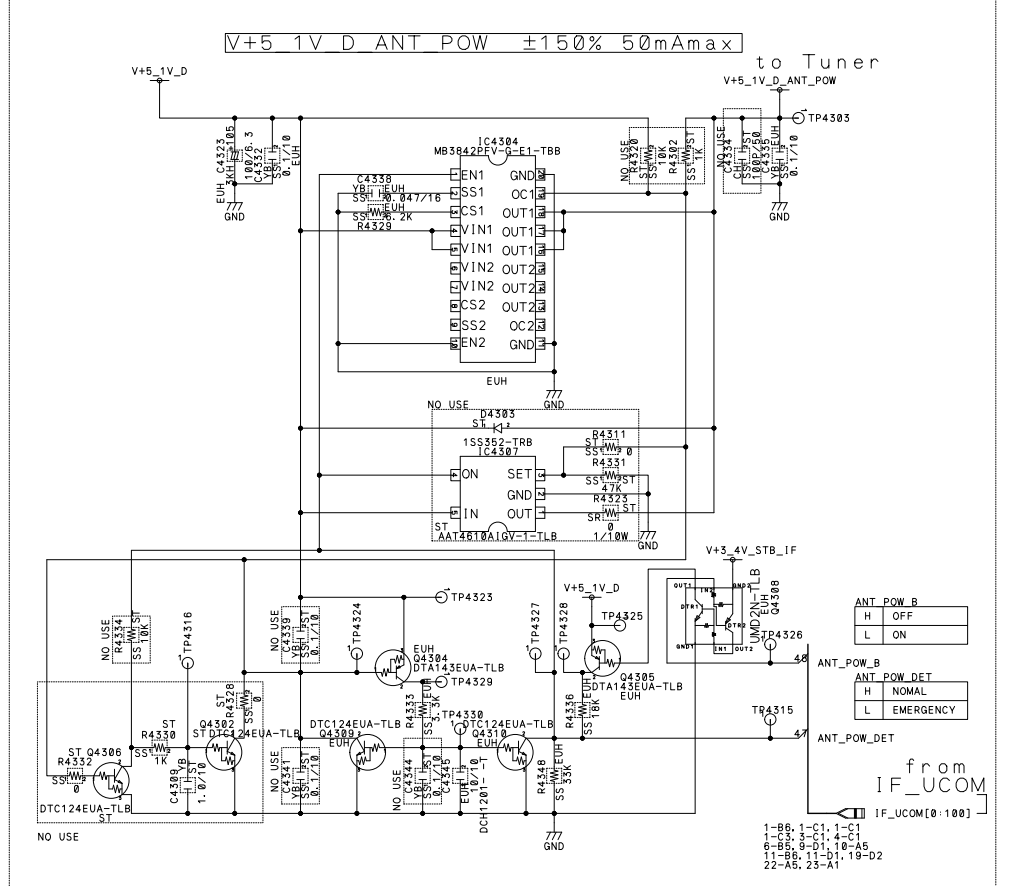
3 X

The Δ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

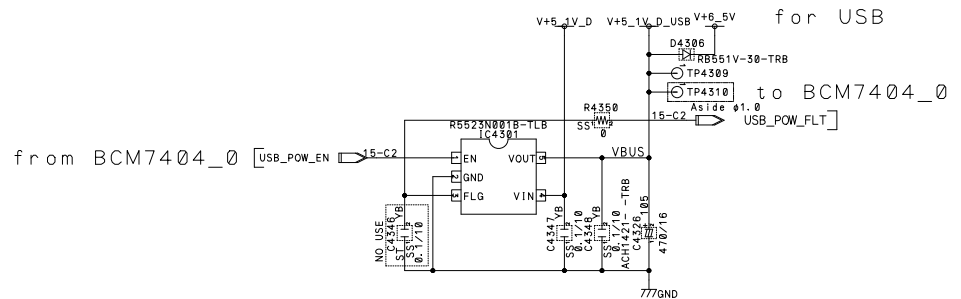


OCP Block

for EUH



V+5V D USB \pm xxx% 500mAmax



EUH	WANT	AS D
W/217	W/217	W/217
1-4301	4302	4303
2-4304	4305	4306
3-4307	4308	4309
4-4312	4313	4314
5-4317	4318	4319
6-4322	4323	4324
7-4327	4328	4329
8-4332	4333	4334
9-4337	4338	4339
10-4342	4343	4344
11-4347	4348	4349
12-4352	4353	4354
13-4357	4358	4359
14-4362	4363	4364
15-4367	4368	4369
16-4372	4373	4374
17-4377	4378	4379
18-4382	4383	4384
19-4387	4388	4389
20-4392	4393	4394
21-4397	4398	4399
22-4402	4403	4404

MAIN ASS'Y (EU_HD, AUS) (04/24)
POWER_0 BLOCK

AWV2556-
AWV2557-
AWV2558-

7.5 MAIN ASSY (5/24) [POWER_1 BLOCK]

A

B

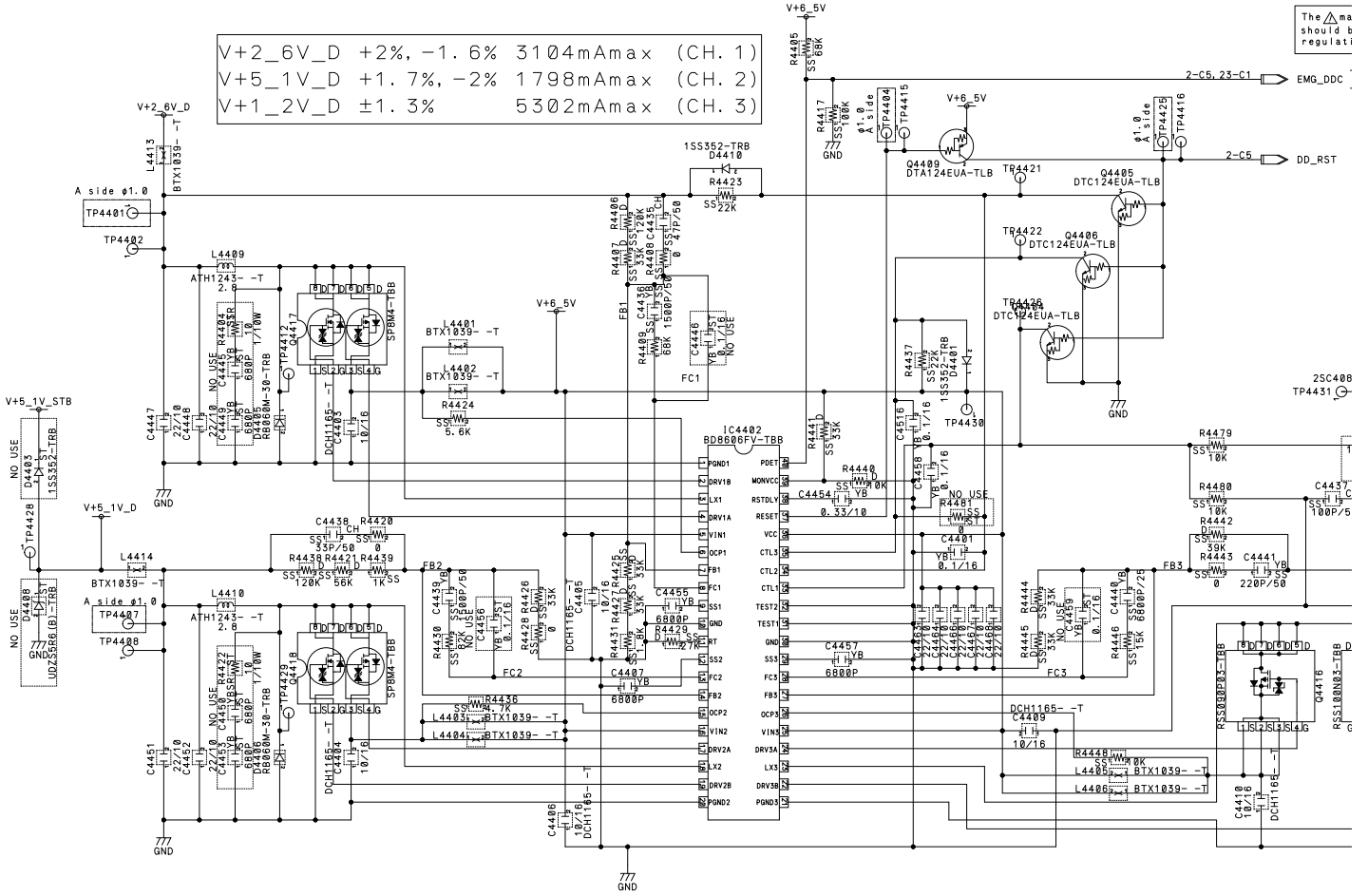
C

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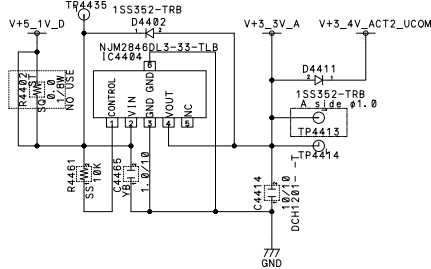
F

V+2_6V_D +2%, -1.6% 3104mAmax (CH. 1)
V+5_1V_D +1.7%, -2% 1798mAmax (CH. 2)
V+1_2V_D ±1.3% 5302mAmax (CH. 3)

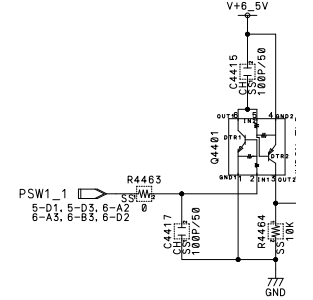


V+3 3V A ±1% 395mAmax

for ADC, VDEC

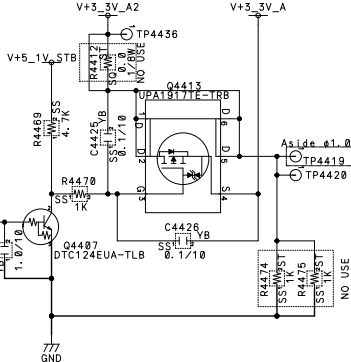


V+2 6V D2 +2% for AR

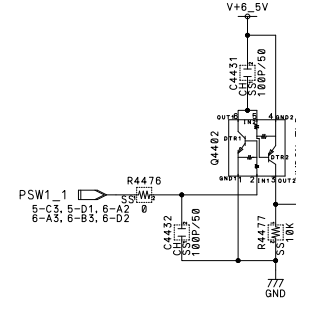


V+3 3V A2 +1%, -1.4% 209mAmax

for VDEC



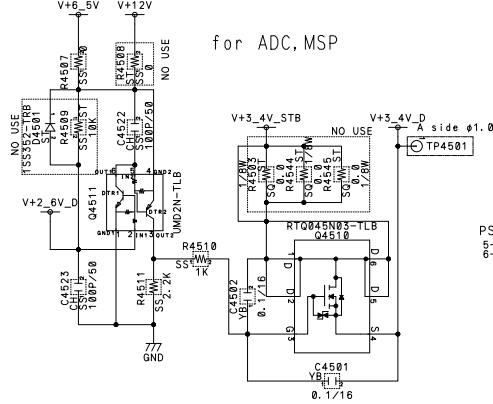
V+1 2V D2 +1% for AI



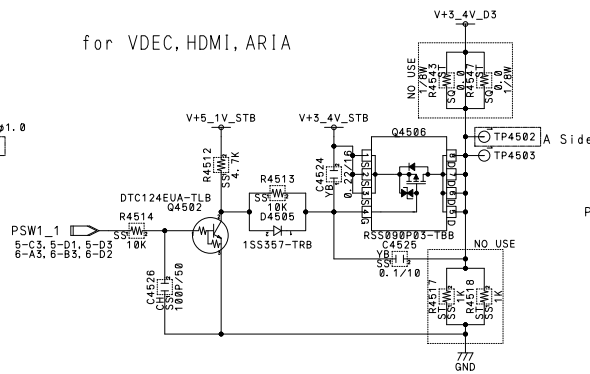
7.6 MAIN ASSY (6/24) [POWER_2 BLOCK]

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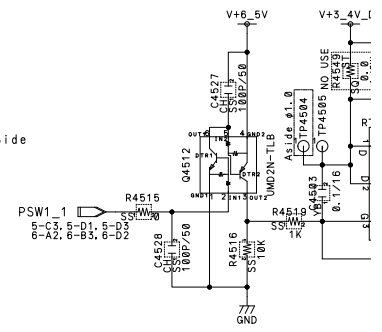
V+3 4V D +3.5%, -4.4% 2501mAmax



V+3 4V D3 +3.5%, -6.4% 959mAmax

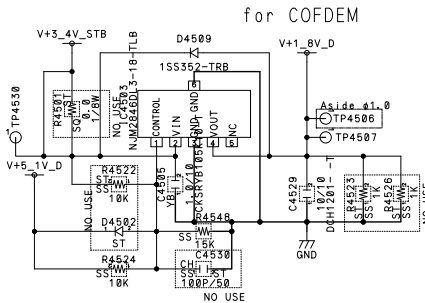


V+3 4V D4 +3.5%, -8%

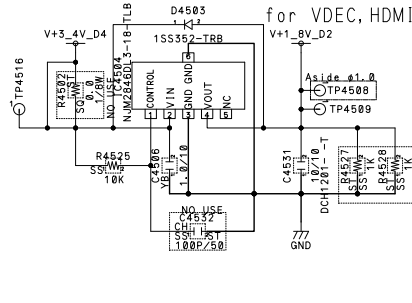


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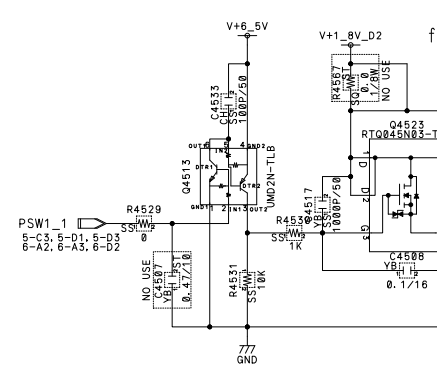
V+1 8V D ±1% 213mAmax



V+1 8V D2 ±1% 606mAmax

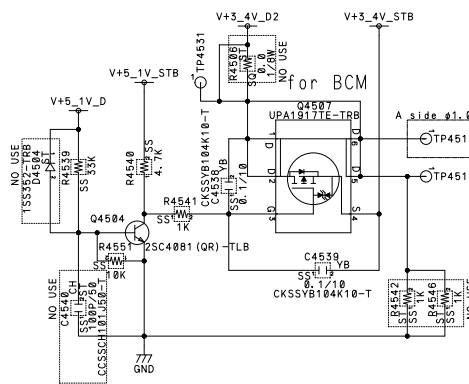


V+1 8V D3 +1%, -1.4%



C

V+3 4V D2 +3.5%, -5.9% 750mAmax

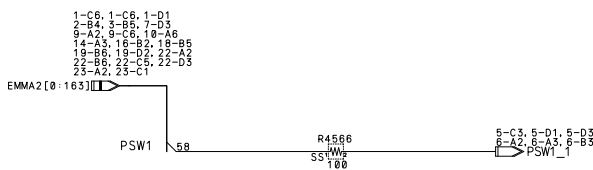


ITEM	USED	BLK	AVD17	AVD18	AVD19	AVD20	AVD21	AVD22	AVD23	AVD24	AVD25	AVD26	AVD27	AVD28	AVD29	AVD30	AVD31	AVD32	AVD33	AVD34	AVD35	AVD36	AVD37	AVD38	AVD39	AVD40	AVD41	AVD42	AVD43	AVD44	AVD45	AVD46	AVD47	AVD48	AVD49	AVD50	AVD51	AVD52	AVD53	AVD54	AVD55	AVD56	AVD57	AVD58	AVD59	AVD60	AVD61	AVD62	AVD63	AVD64	AVD65	AVD66	AVD67	AVD68	AVD69	AVD70	AVD71	AVD72	AVD73	AVD74	AVD75	AVD76	AVD77	AVD78	AVD79	AVD80	AVD81	AVD82	AVD83	AVD84	AVD85	AVD86	AVD87	AVD88	AVD89	AVD90	AVD91	AVD92	AVD93	AVD94	AVD95	AVD96	AVD97	AVD98	AVD99	AVD100														
C	4201	4202	4203	4204	4205	4206	4207	4208	4209	4210	4211	4212	4213	4214	4215	4216	4217	4218	4219	4220	4221	4222	4223	4224	4225	4226	4227	4228	4229	4230	4231	4232	4233	4234	4235	4236	4237	4238	4239	4240	4241	4242	4243	4244	4245	4246	4247	4248	4249	4250	4251	4252	4253	4254	4255	4256	4257	4258	4259	4260	4261	4262	4263	4264	4265	4266	4267	4268	4269	4270	4271	4272	4273	4274	4275	4276	4277	4278	4279	4280	4281	4282	4283	4284	4285	4286	4287	4288	4289	4290	4291	4292	4293	4294	4295	4296	4297	4298	4299	4300
D	4201	4202	4203	4204	4205	4206	4207	4208	4209	4210	4211	4212	4213	4214	4215	4216	4217	4218	4219	4220	4221	4222	4223	4224	4225	4226	4227	4228	4229	4230	4231	4232	4233	4234	4235	4236	4237	4238	4239	4240	4241	4242	4243	4244	4245	4246	4247	4248	4249	4250	4251	4252	4253	4254	4255	4256	4257	4258	4259	4260	4261	4262	4263	4264	4265	4266	4267	4268	4269	4270	4271	4272	4273	4274	4275	4276	4277	4278	4279	4280	4281	4282	4283	4284	4285	4286	4287	4288	4289	4290	4291	4292	4293	4294	4295	4296	4297	4298	4299	4300
E	4201	4202	4203	4204	4205	4206	4207	4208	4209	4210	4211	4212	4213	4214	4215	4216	4217	4218	4219	4220	4221	4222	4223	4224	4225	4226	4227	4228	4229	4230	4231	4232	4233	4234	4235	4236	4237	4238	4239	4240	4241	4242	4243	4244	4245	4246	4247	4248	4249	4250	4251	4252	4253	4254	4255	4256	4257	4258	4259	4260	4261	4262	4263	4264	4265	4266	4267	4268	4269	4270	4271	4272	4273	4274	4275	4276	4277	4278	4279	4280	4281	4282	4283	4284	4285	4286	4287	4288	4289	4290	4291	4292	4293	4294	4295	4296	4297	4298	4299	4300
F	4201	4202	4203	4204	4205	4206	4207	4208	4209	4210	4211	4212	4213	4214	4215	4216	4217	4218	4219	4220	4221	4222	4223	4224	4225	4226	4227	4228	4229	4230	4231	4232	4233	4234	4235	4236	4237	4238	4239	4240	4241	4242	4243	4244	4245	4246	4247	4248	4249	4250	4251	4252	4253	4254	4255	4256	4257	4258	4259	4260	4261	4262	4263	4264	4265	4266	4267	4268	4269	4270	4271	4272	4273	4274	4275	4276	4277	4278	4279	4280	4281	4282	4283	4284	4285	4286	4287	4288	4289	4290	4291	4292	4293	4294	4295	4296	4297	4298	4299	4300
G	4201	4202	4203	4204	4205	4206	4207	4208	4209	4210	4211	4212	4213	4214	4215	4216	4217	4218	4219	4220	4221	4222	4223	4224	4225	4226	4227	4228	4229	4230	4231	4232	4233	4234	4235	4236	4237	4238	4239	4240	4241	4242	4243	4244	4245	4246	4247	4248	4249	4250	4251	4252	4253	4254	4255	4256	4257	4258	4259	4260	4261	4262	4263	4264	4265	4266	4267	4268	4269	4270	4271	4272	4273	4274	4275	4276	4277	4278	4279	4280	4281	4282	4283	4284	4285	4286	4287	4288	4289	4290	4291	4292	4293	4294	4295	4296	4297	4298	4299	4300
H	4201	4202	4203	4204	4205	4206	4207	4208	4209	4210	4211	4212	4213	4214	4215	4216	4217	4218	4219	4220	4221	4222	4223	4224	4225	4226	4227	4228	4229	4230	4231	4232	4233	4234	4235	4236	4237	4238	4239	4240	4241	4242	4243	4244	4245	4246	4247	4248	4249	4250	4251	4252	4253	4254	4255	4256	4257	4258	4259	4260	4261	4262	4263	4264	4265	4266	4267	4268	4269	4270	4271	4272	4273	4274	4275	4276	4277	4278	4279	4280	4281	4282	4283	4284	4285	4286	4287	4288	4289	4290	4291	4292	4293	4294	4295	4296	4297	4298	4299	4300

D

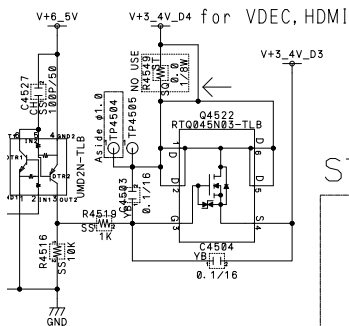
CONTROL Block

E



F

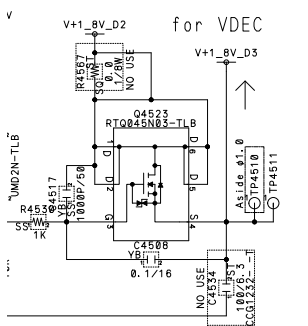
+3.5%, -8% 881mAmax



STBY SW REG

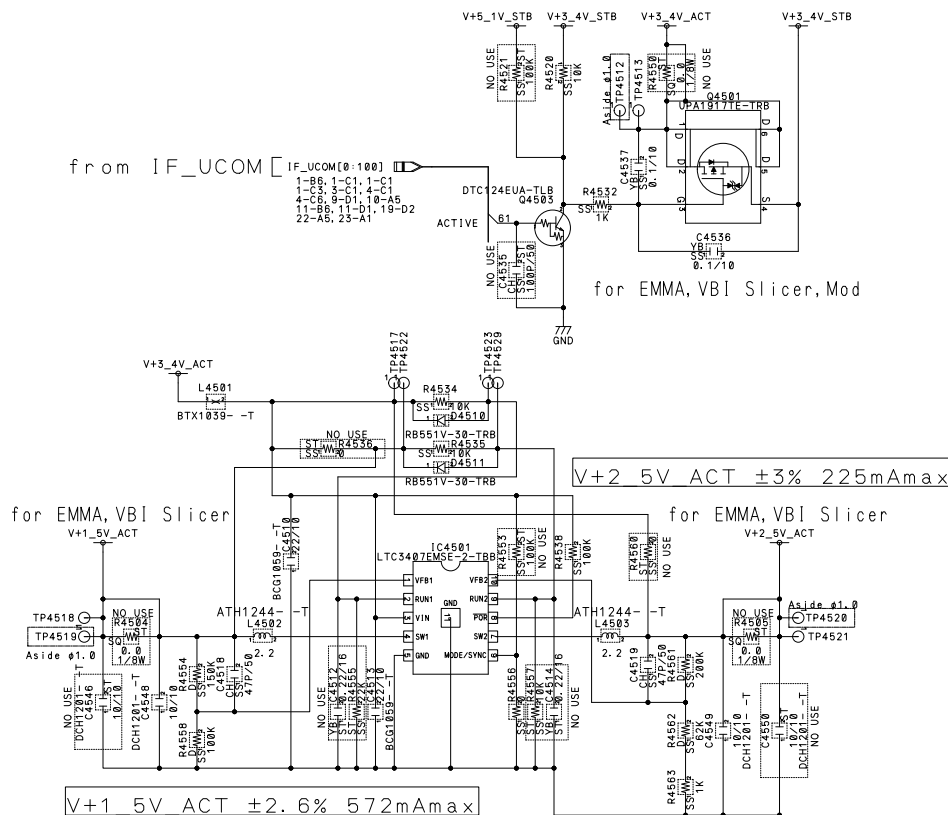
The Δ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

+1%, -1.4% 187mAmax



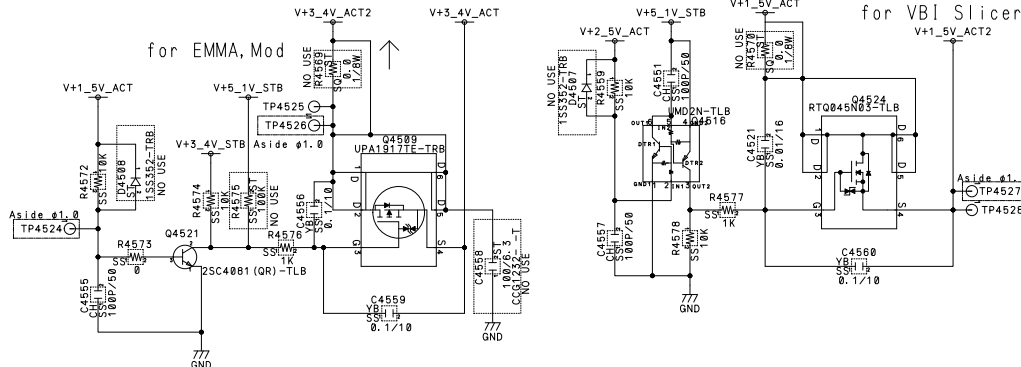
V+3 4V ACT +3.5%/-4.5% 614mAmax

from IF_UCOM [IF_UCOM[0:100]
1-BB, 1-C1, 1-C1
4-CB, 9-D1, 1-A-A5
11-BB, 11-D1, 19-D2
22-A5, 23-A1



V+3 4V ACT2 +3.5%, -5% 94mAmax

V+1 5V ACT2 +2.6%, -2.7% 23mAmax



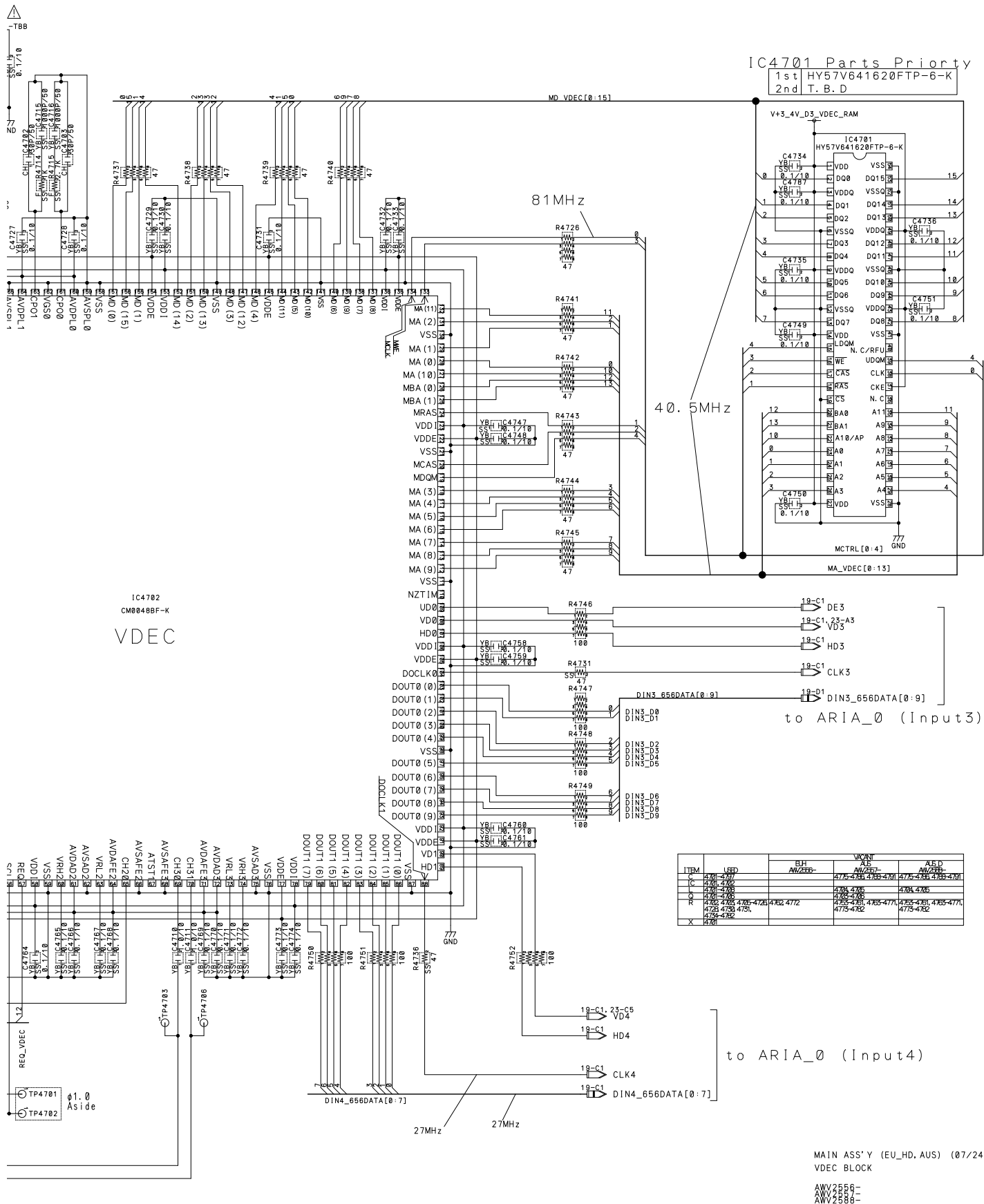
MAIN ASS'Y (EU_HD, AUS) (06/24)
POWER_2_BLOCK

AWV2556-
AWV2557-
AWV2558-

4



4MHz



7.8 MAIN ASSY (8/24) [ADC BLOCK]

A

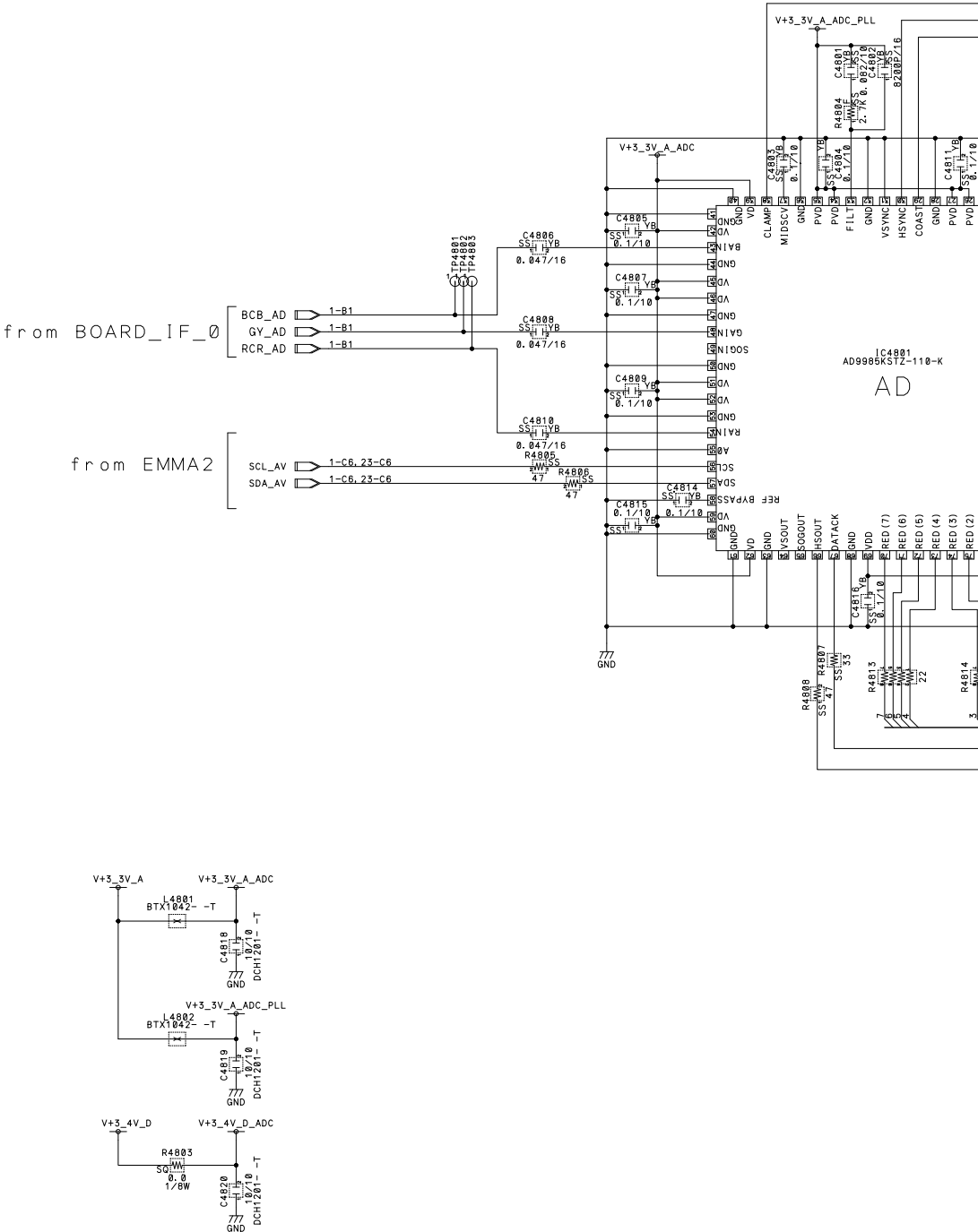
B

C

D

E

F



A

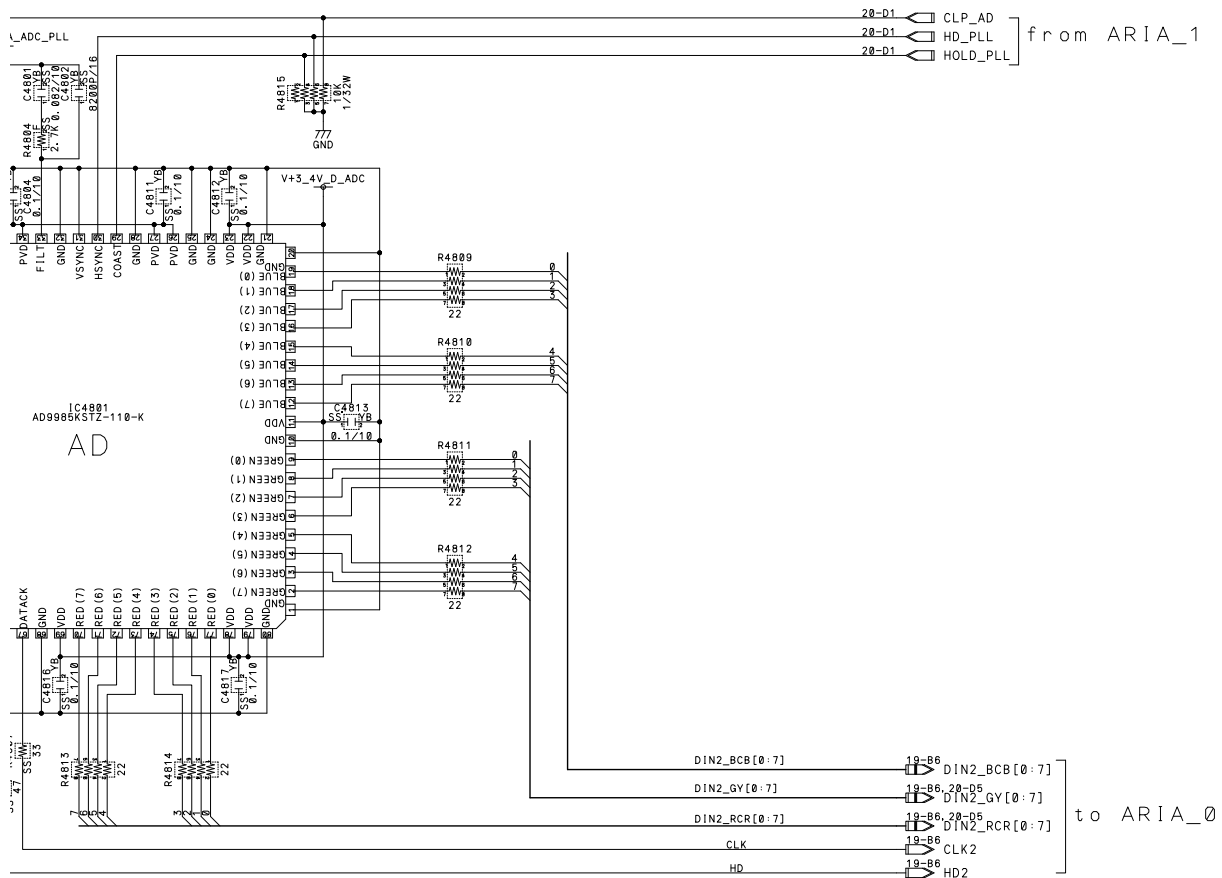
B

C

D

E

F



ITEM	LED	V _{AS}		
		EU	AS	ASD
C	4801	AW/256	AW/257	AW/258
R	4815	AW/256	AW/257	AW/258

MAIN ASS'Y (EU_HD, AUS) (08/24)
ADC BLOCK

AWV2556-
AWV2557-
AWV2558-

4

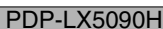




4



ITEM	USED	R/H		VACANT		A.S.D	
		AW/255-	AW/257-	AW/257-	AW/255-	AW/255-	AW/255-
C	5001, 5002, 5003						
D	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
E	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009
F	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
G	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
H	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
I	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
J	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
K	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
L	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
M	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
N	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
O	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
P	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
Q	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
R	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
S	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
T	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
U	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
V	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
W	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
X	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
Y	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						
Z	5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009						



7.11 MAIN ASSY (11/24) [DTB_T TUNER BLOCK]

A

B

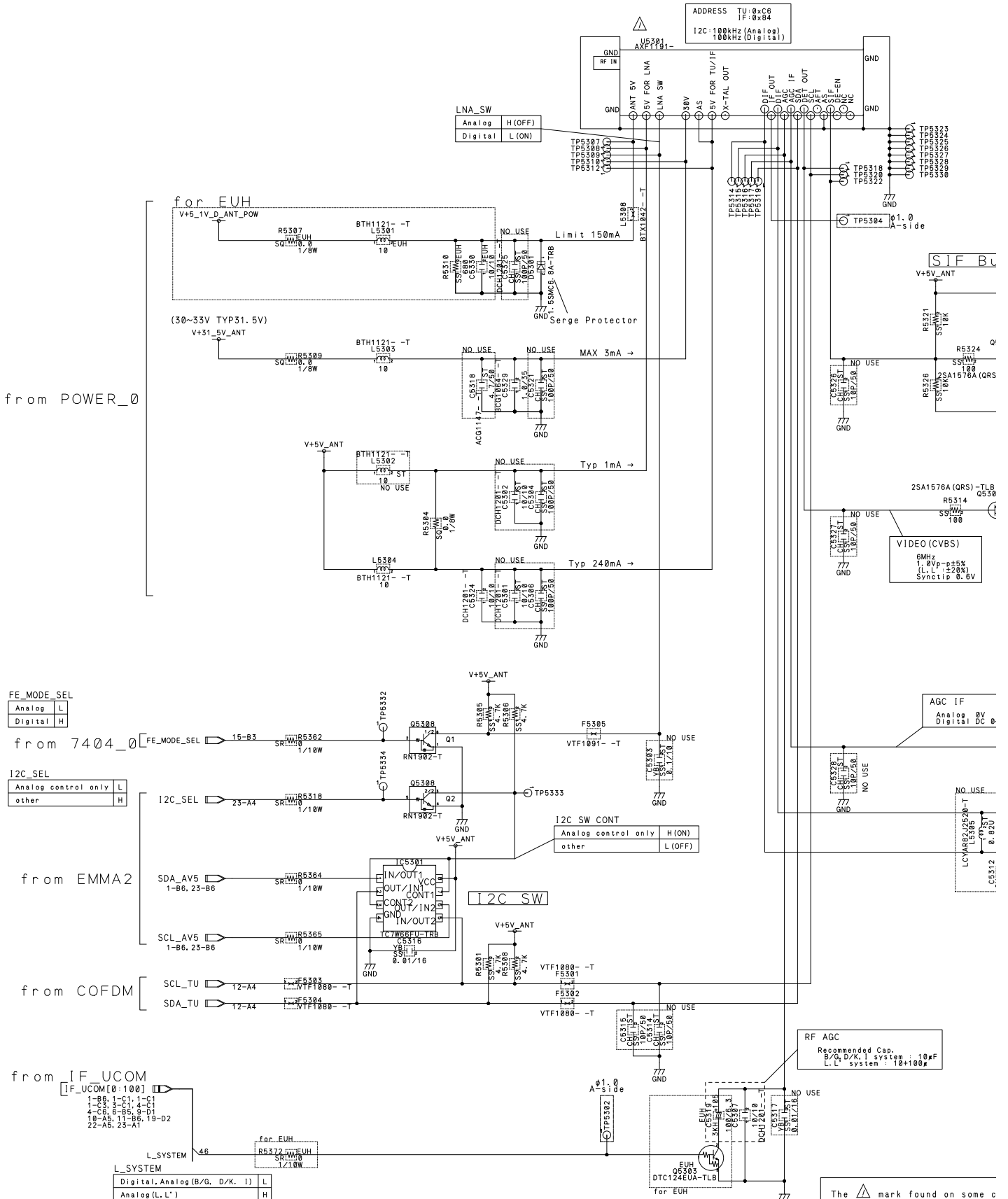
C

D

E

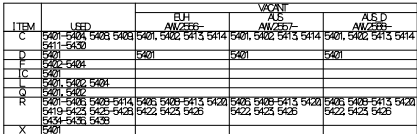
F

DVB-Terrestrial Tuner

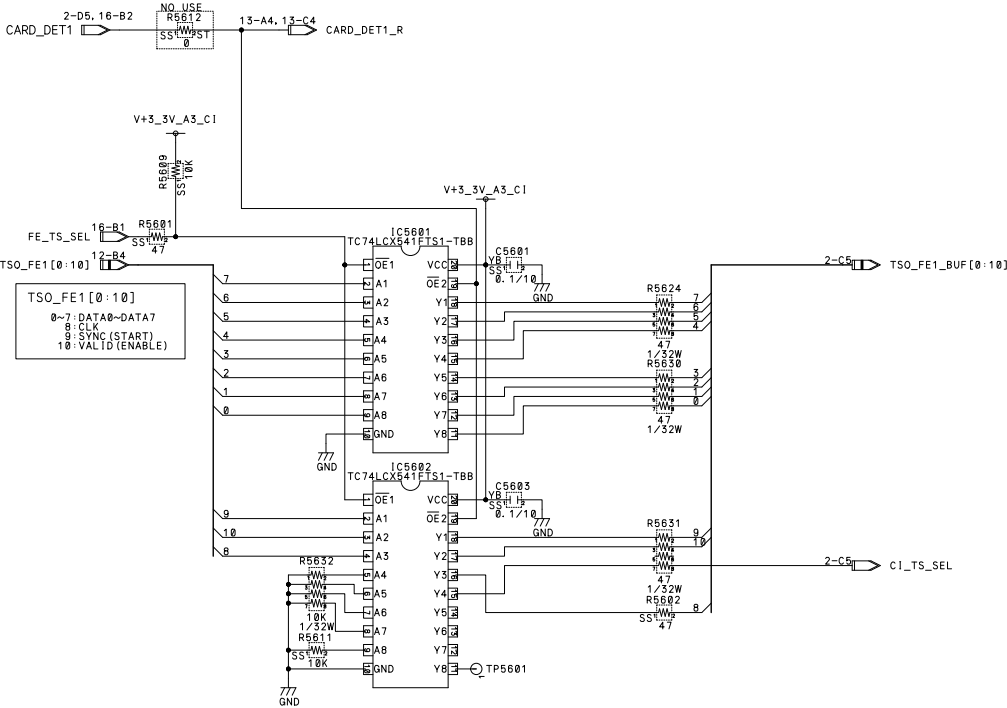
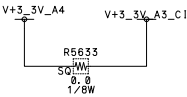


4

F



7.13 MAIN ASSY (13/24) [COMMON_IF BLOCK]

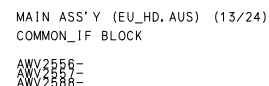


13
CARD_D
2-
7404_EI_CS
2-
7404_E
2-
7404_EB
2-
7404_E
27M_C

ITEM	USED	ELN AW/257-	VACANT AS AW/257-	AS/D AW/257-
C	5501-5505 5505	5504	5504	5504
IC	5501-5505 5504-5505			
R	5501-5502 5504-5505	5512 5504	5512 5504	5512 5504

C1_
C1_

F



7.14 MAIN ASSY (14/24) [VBI_SLICER BLOCK]

A

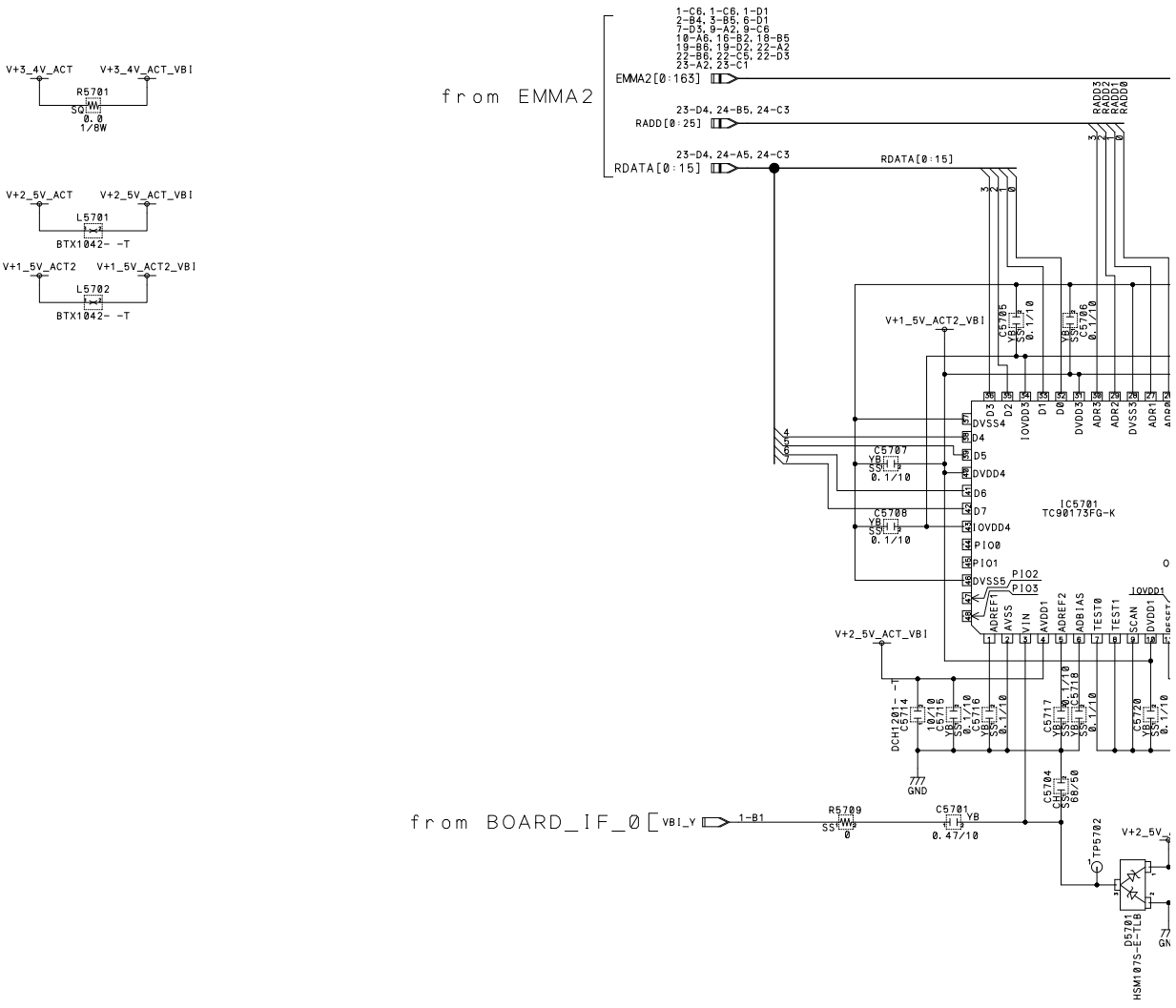
B

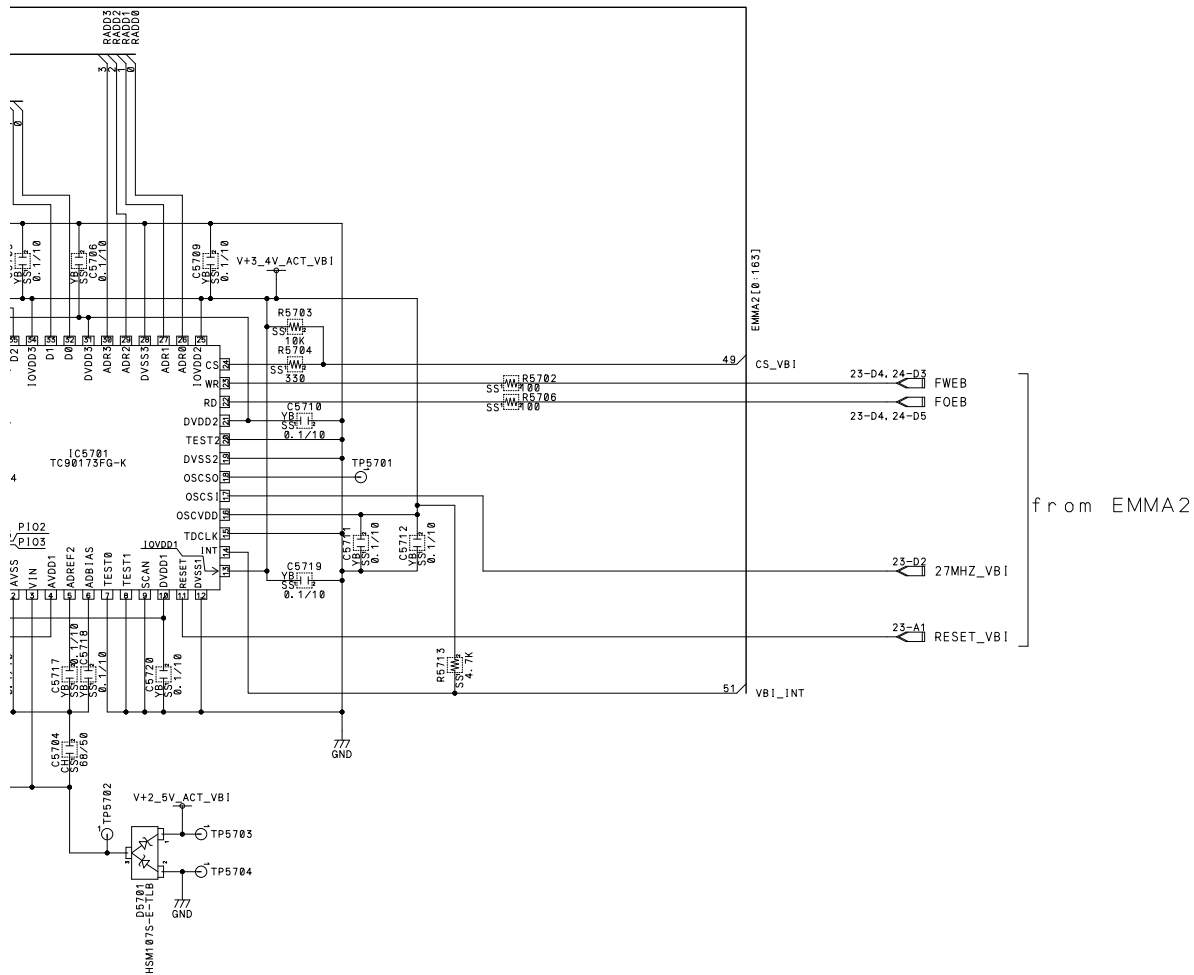
C

D

E

F





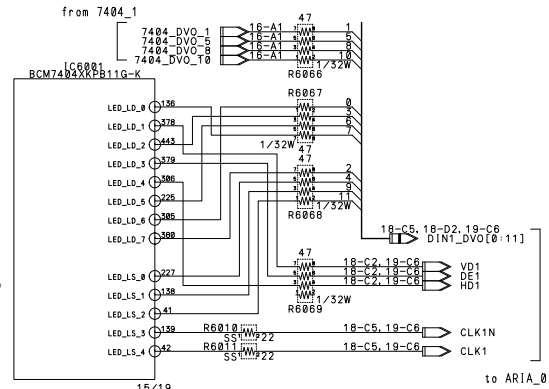
ITEM	REF	EU AV257-	VIN AV257-	ALD AV257-
C	5701, 5702, 5703			
D	5704, 5705			
E	5706, 5707			
F	5708, 5709			
G	5710, 5711			
H	5712, 5713			

MAIN ASS'Y (EU, HD, AUS) (14/24)
VBI_SLICER BLOCK

AWV2556-
AWV2557-
AWV2558-

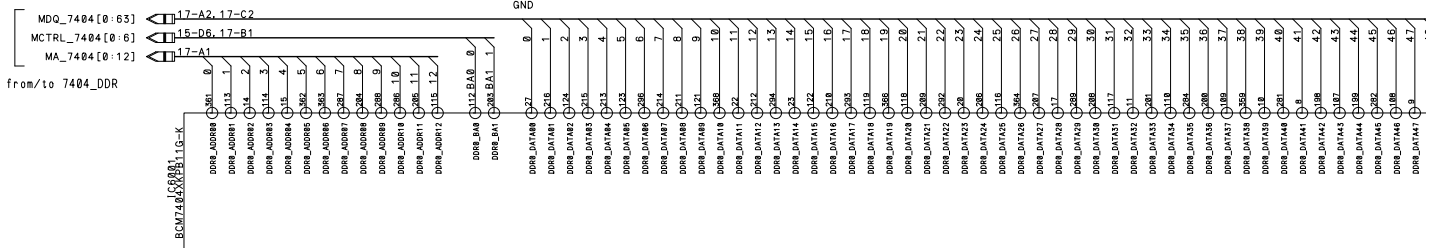
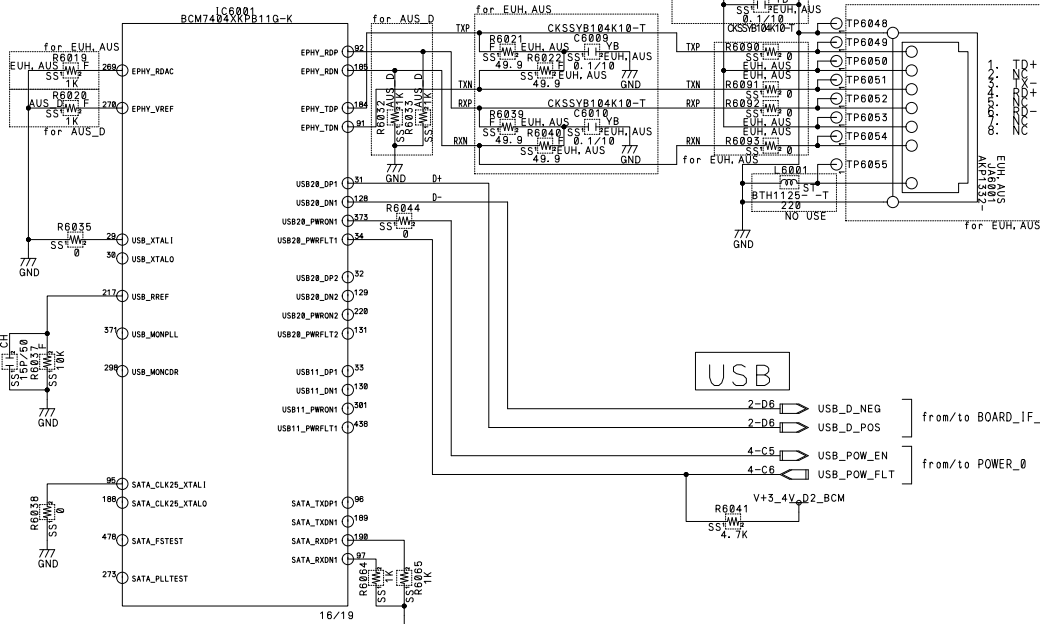
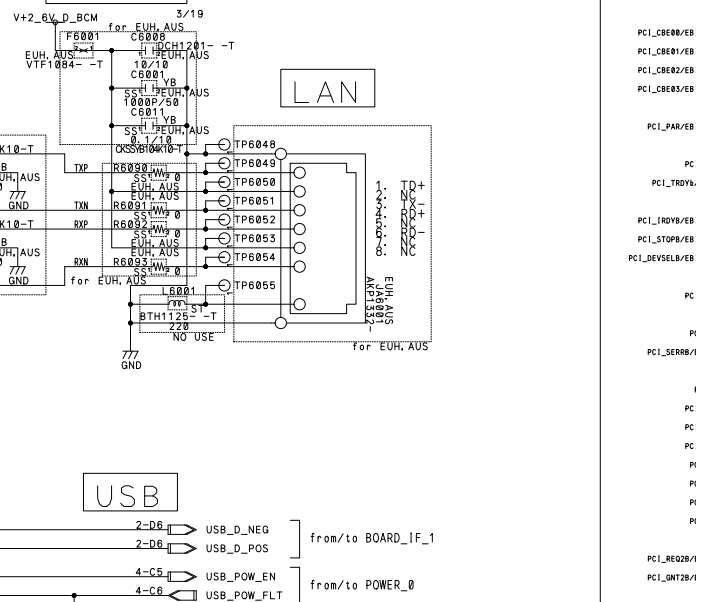
△

TS INPUT



BCM74450 (L6801) 11G-K

Pin	Signal	Function
388	V18_058_0	18-C5 → 7484_V0_058_D0
390	V18_058_1	18-C6 → 7484_V0_058_D1
428	V18_058_2	18-C2 → 7484_V0_058_D2
440	V18_058_3	18-D2 → 7484_V0_058_D3
444	V18_058_4	GPIO_058_V0_058_4 → 22-D6, 23-D6 → USB_DL
444	V18_058_5	GPIO_058_V0_058_5 → 22-D4 → 7484_DEBUG
428	V18_058_6	GPIO_058_V0_058_6 → TP6801
388	V18_058_7	GPIO_058_V0_058_7 → SSW94
448	V18_058_8	11-C1 → FE_MODE_SEL
448	V18_058_9	TP6801
448	V18_058_10	TP6801
448	V18_058_11	TP6801
448	V18_058_12	TP6801
448	V18_058_13	TP6801
448	V18_058_14	TP6801
448	V18_058_15	TP6801



△

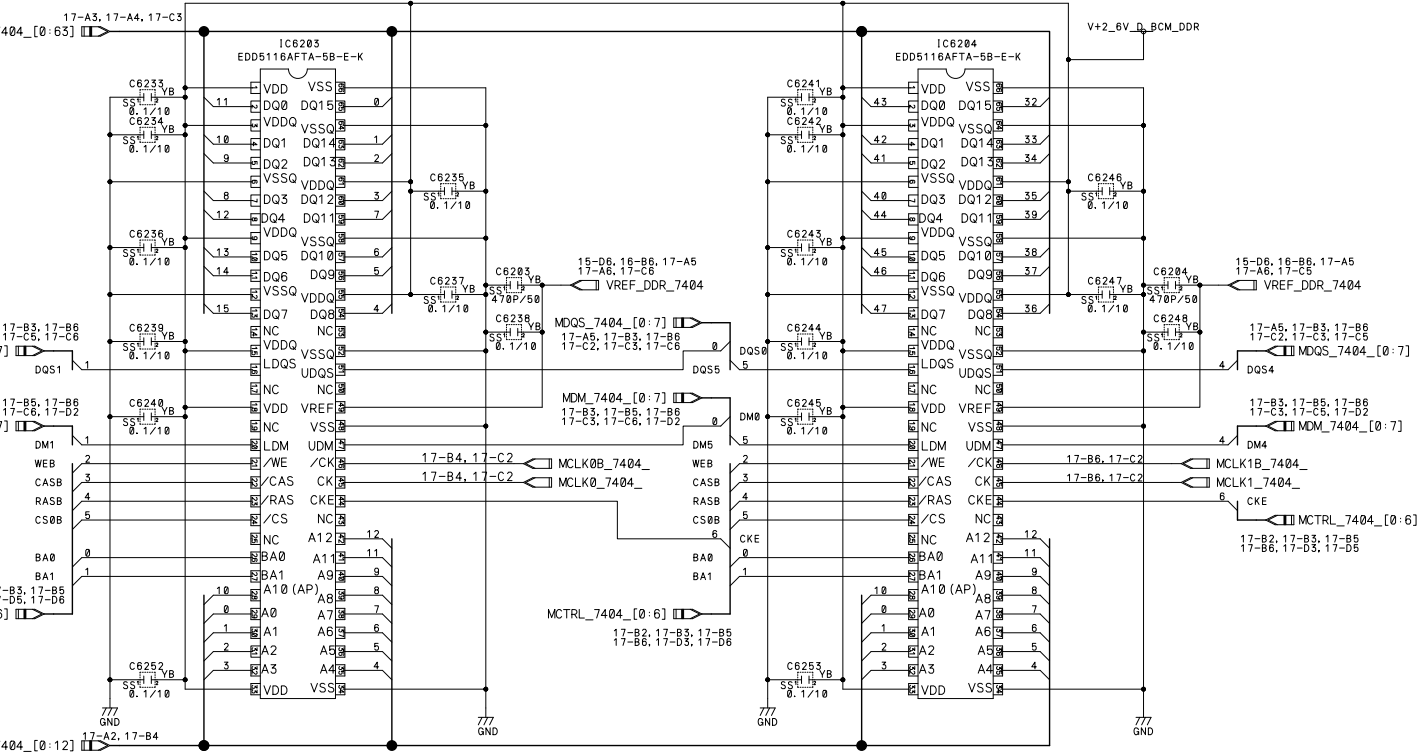
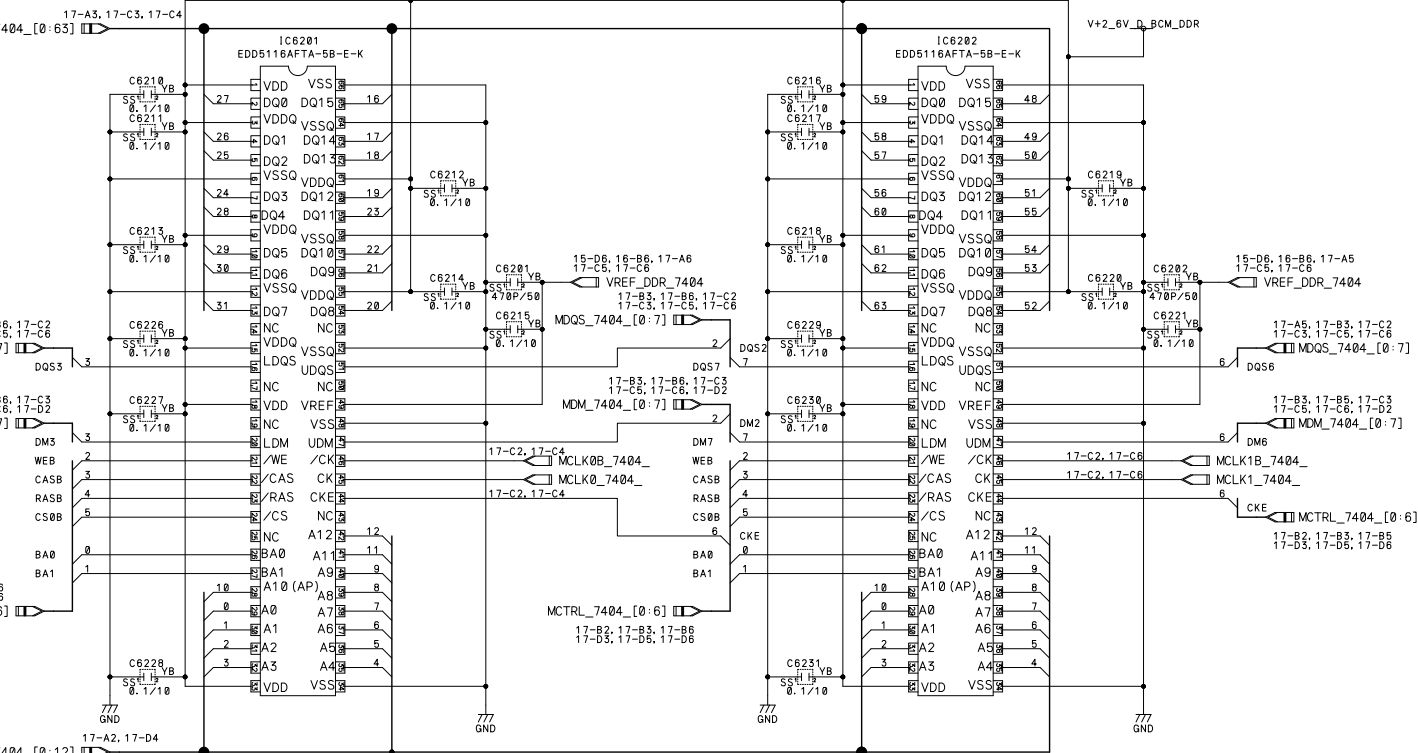


△



Priority

7404 DDR
512Mbit x 4pcs



ITEM	USED	VDDT		VDDT	
		BH	AW250	AW257	AW258
C	200	200	200	200	200
D	200	200	200	200	200
R	200	200	200	200	200

MAIN ASS'Y (EU,HD,AUS) (017/24)
7404_DDR BLOCK

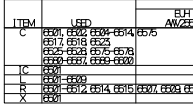
AWV2556-
AWV2557-
AWV2588-

△



△

F



A

F

F

7.20 MAIN ASSY (20/24) [ARIA_1 BLOCK]

A

ITEM	USED	REF	VALUE	ALSO
C	R001-R003, R004-R007	RH	AW257	AW257
R	R001-R003	R001	R001	R001

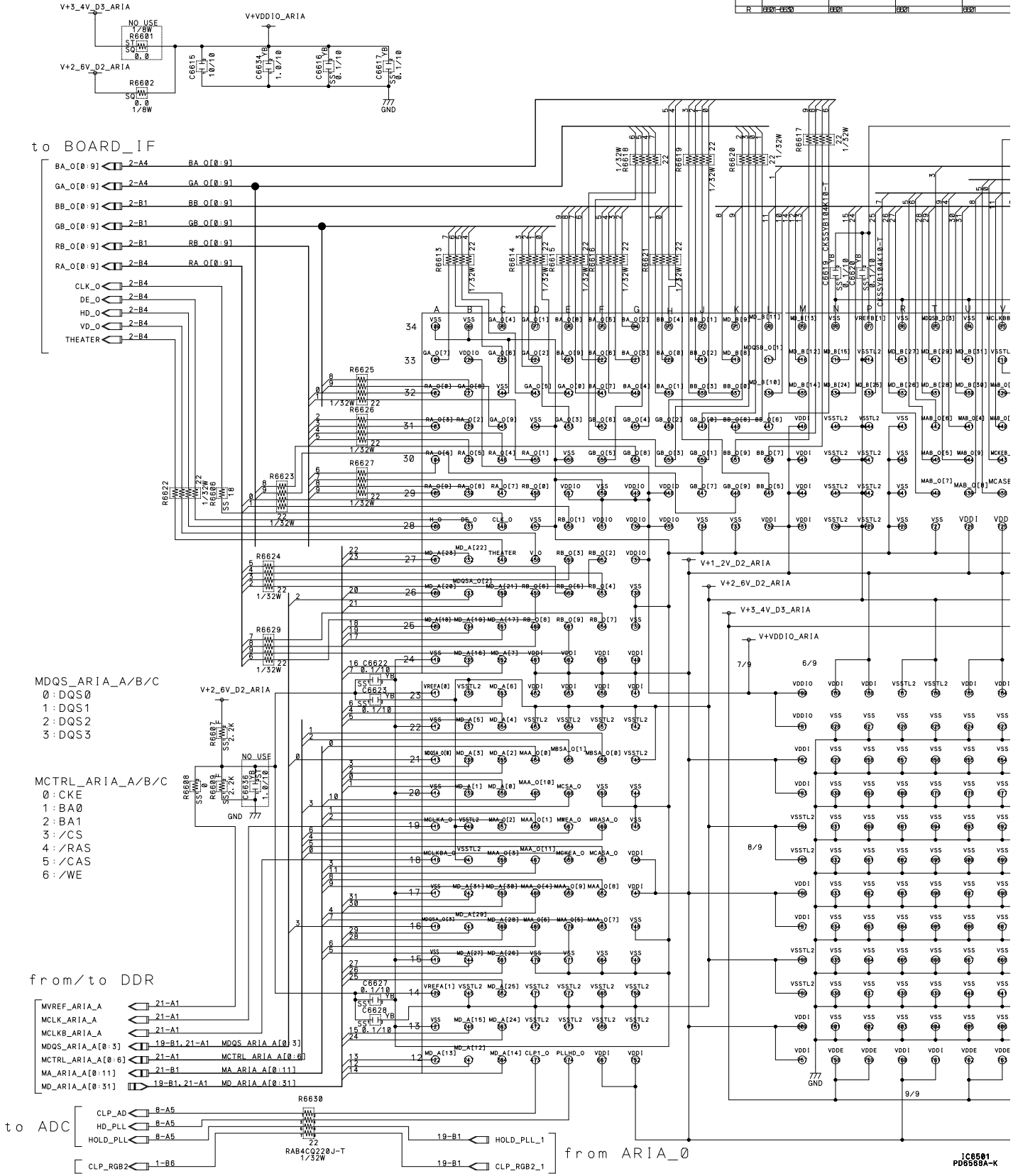
B

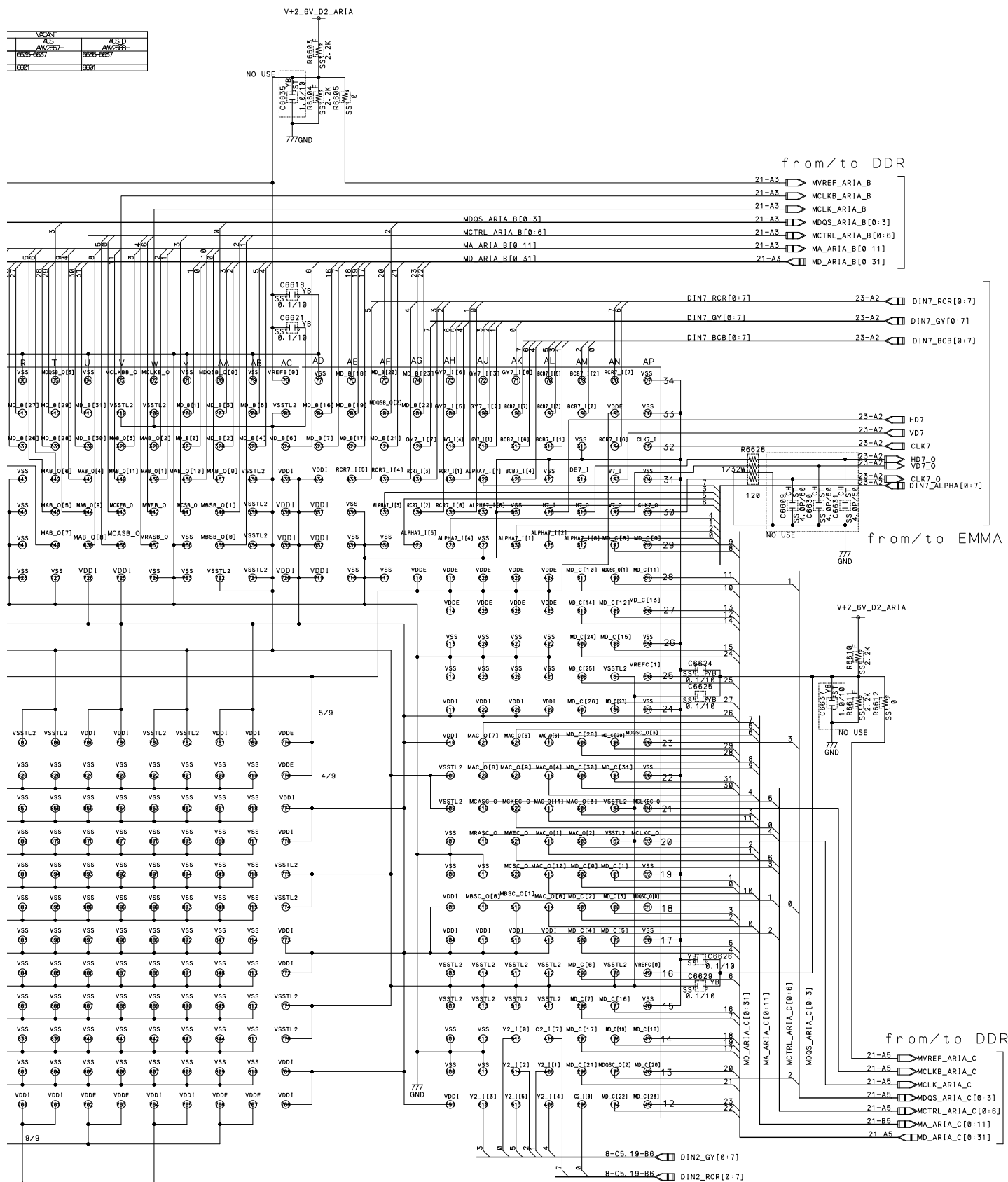
C

D

E

F

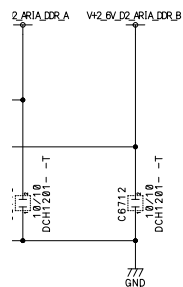
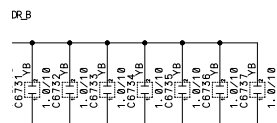
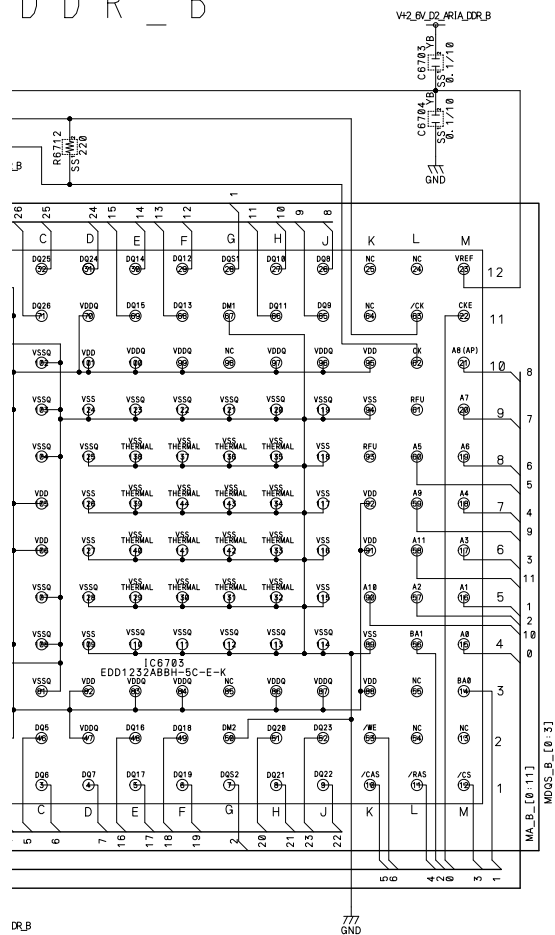




△

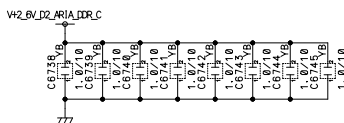
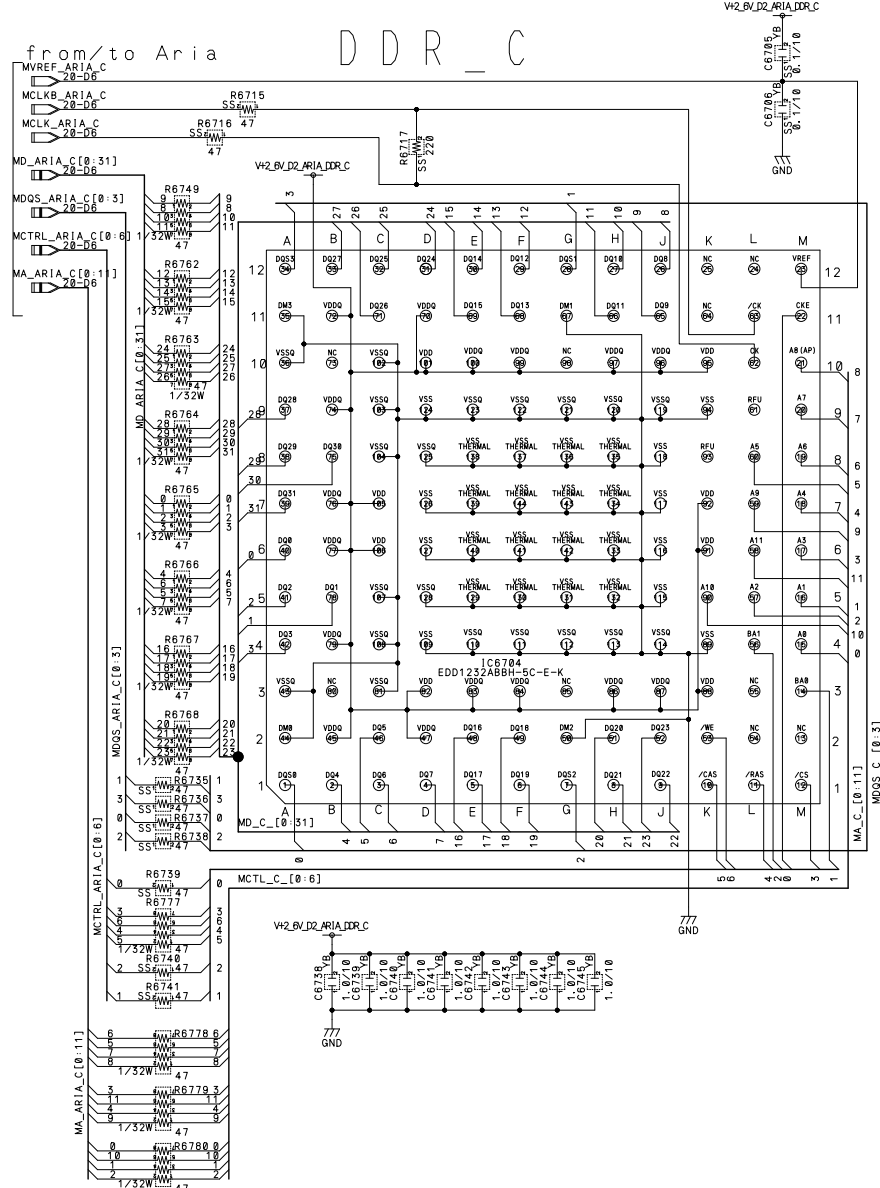
3702-IC6704 Parts Priority
EDD1232ABBH-5C-E-K
T. B. D

DDR_B



-K S29GL016A90T FIR2-K
-K

DDR_C



ITEM	REF	BJ	WARY	ALSD
C	6701-6708 6708 6712 6714 6718 6722 6726	AW2556- AW2557- AW2558-	AW2556- AW2557- AW2558-	AW2556- AW2557- AW2558-
R	6701-6708 6708 6712 6714 6718 6722 6726	6744	6744	6744

MAIN ASS'Y (EU_HD, AUS) (21/24)
ARIA_MEMORY BLOCK

AW2556-
AW2557-
AW2558-

7.22 MAIN ASSY (22/24) [IF_UCOM BLOCK]

A

The \triangle mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

IC6811		
EUH	AGC1072-	-P1-K
AUS		
AUS_D		M30620FCSGP-U

B

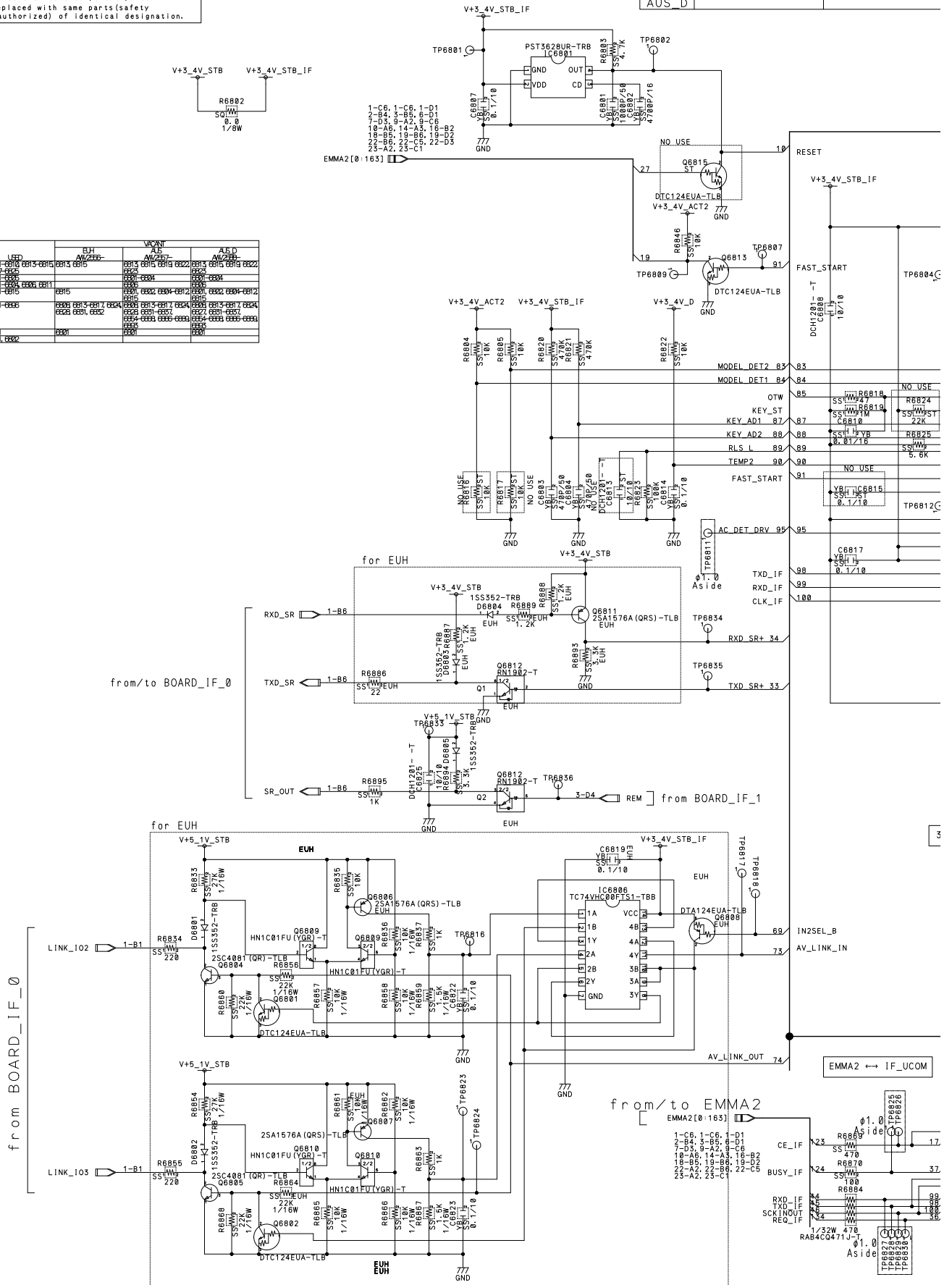
ITEM	U/EFD	EUH AVC220	VACANT ALS AVC220	ALS D AVC220
C	0201-0210	0213-0215	0213-0215	0213-0215
D	0217-0220	0223-0225	0223-0225	0223-0225
E	0227-0230	0233-0235	0233-0235	0233-0235
F	0237-0240	0243-0245	0243-0245	0243-0245
G	0247-0250	0253-0255	0253-0255	0253-0255
H	0257-0260	0263-0265	0263-0265	0263-0265
I	0267-0270	0273-0275	0273-0275	0273-0275
J	0277-0280	0283-0285	0283-0285	0283-0285
K	0287-0290	0293-0295	0293-0295	0293-0295
L	0297-0300	0303-0305	0303-0305	0303-0305
M	0307-0310	0313-0315	0313-0315	0313-0315
N	0317-0320	0323-0325	0323-0325	0323-0325
O	0327-0330	0333-0335	0333-0335	0333-0335
P	0337-0340	0343-0345	0343-0345	0343-0345
Q	0347-0350	0353-0355	0353-0355	0353-0355
R	0357-0360	0363-0365	0363-0365	0363-0365
S	0367-0370	0373-0375	0373-0375	0373-0375
T	0377-0380	0383-0385	0383-0385	0383-0385
U	0387-0390	0393-0395	0393-0395	0393-0395
V	0397-0400	0403-0405	0403-0405	0403-0405
W	0407-0410	0413-0415	0413-0415	0413-0415
X	0417-0420	0423-0425	0423-0425	0423-0425
Y	0427-0430	0433-0435	0433-0435	0433-0435
Z	0437-0440	0443-0445	0443-0445	0443-0445

C

D

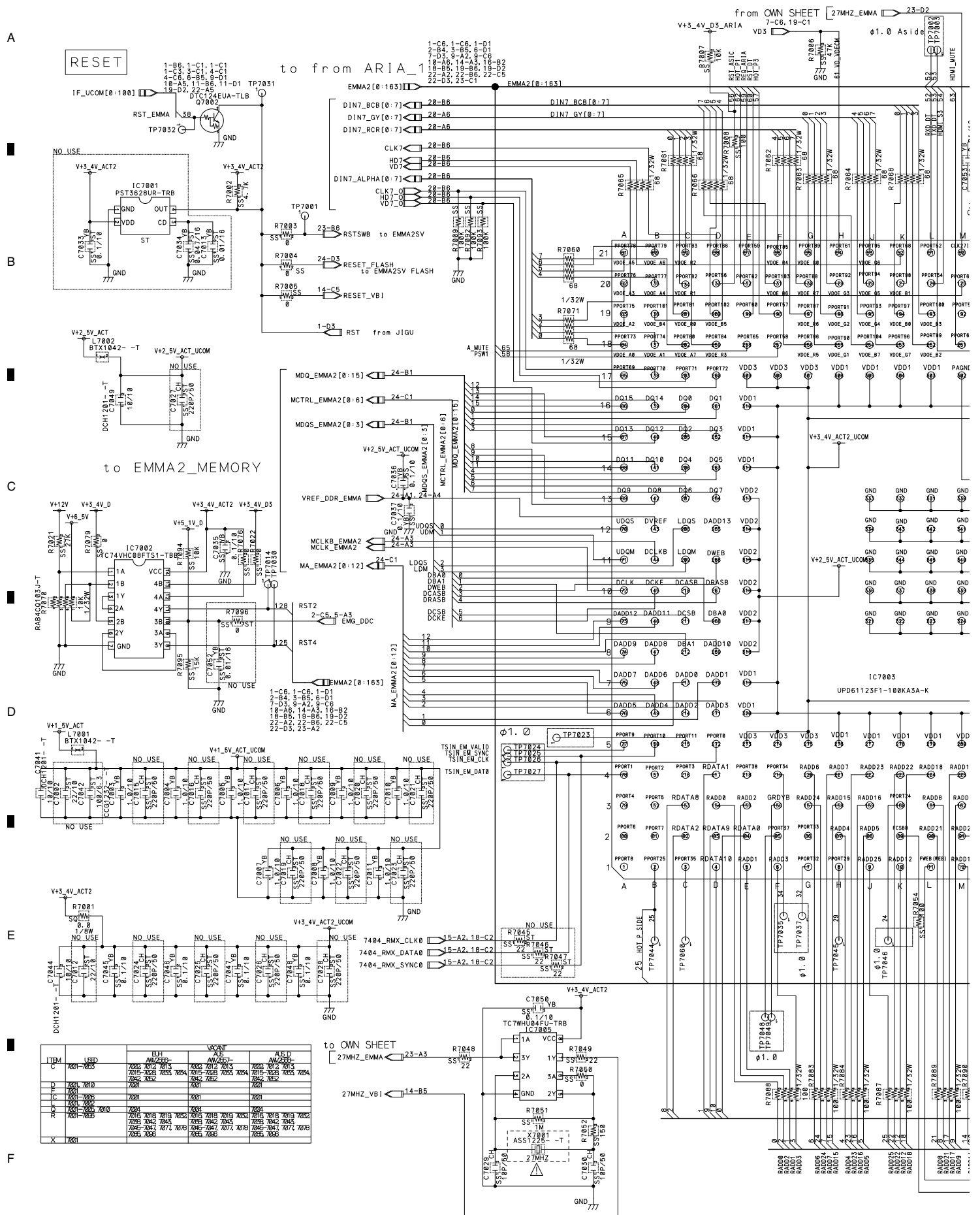
E

F



1 ■ 2 ■

7.23 MAIN ASSY (23/24) [EMMA2 BLOCK]

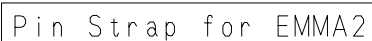




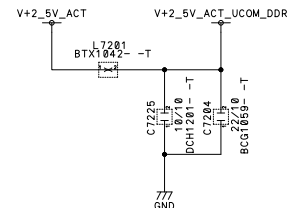
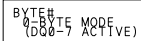
4

F

1st	EDD5116AFTA-5B-E-K
2nd	T. B. D
3rd	T. B. D



32Mb i t



```

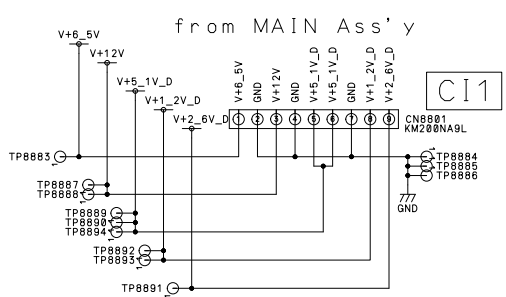
MAIN ASS'Y (EU_HD,AUS) (24/24)
EMMA2_MEMORY BLOCK
AWV2556-
AWV2557-
AWV2588-

```

7.25 CARD ASSY (1/7) [BOARD_IF BLOCK]

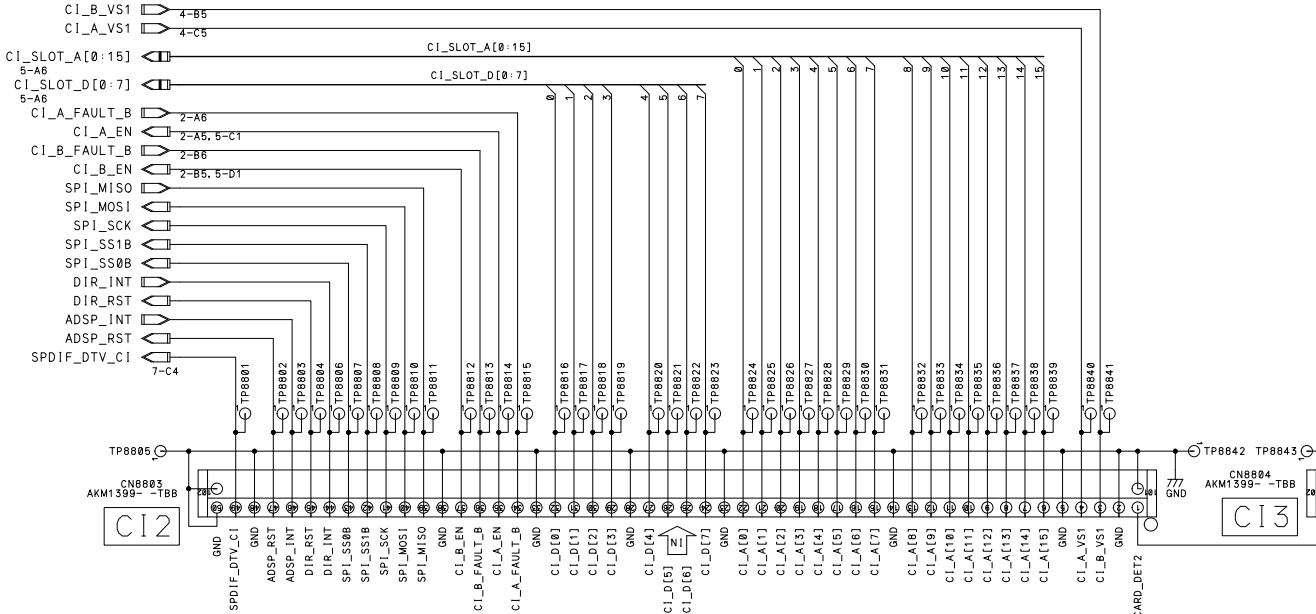
1 2 3 4

A



B

from/to MAIN



C

D

E

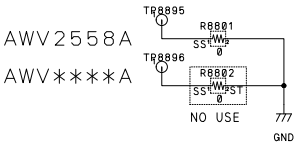
F

1 2 3 4

A

ITEM	USED	VACANT
R	8801-8807	8802
CN	8801, 8803, 8804	

B



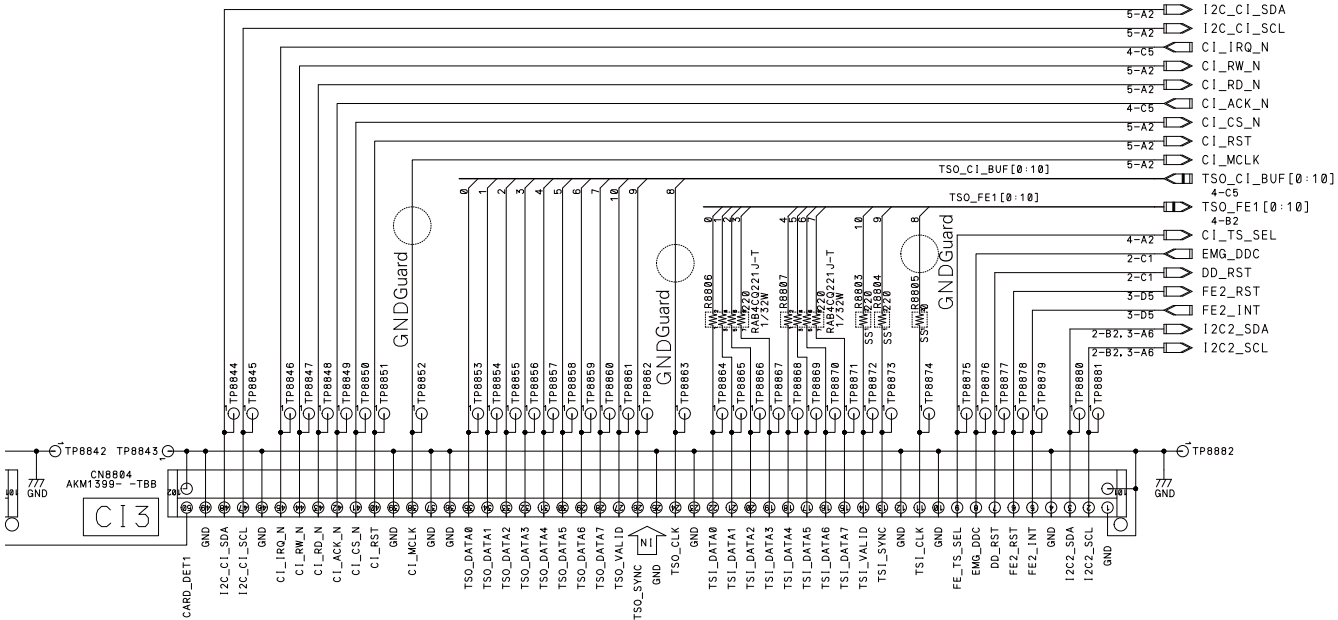
C

D

E

F

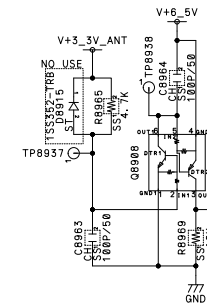
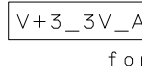
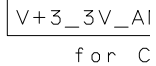
‘to MAIN Ass’y

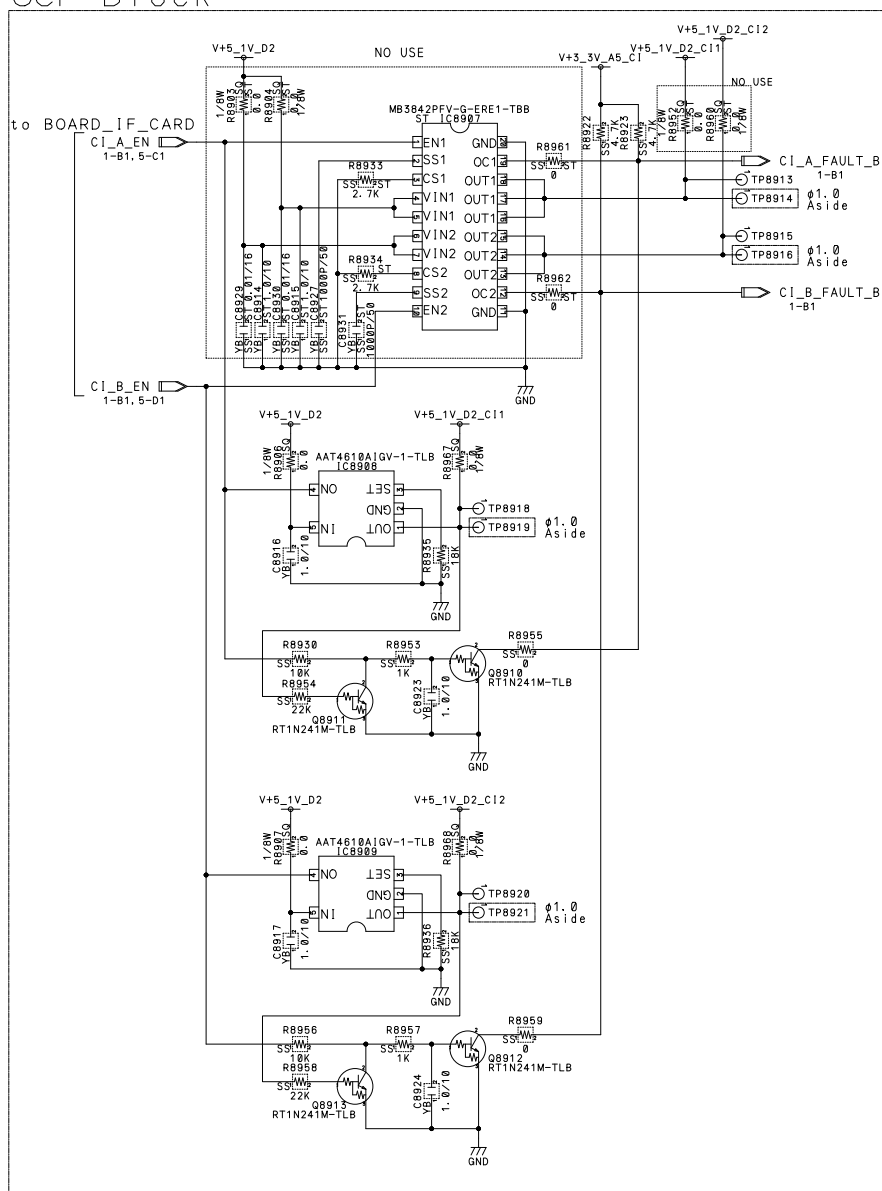
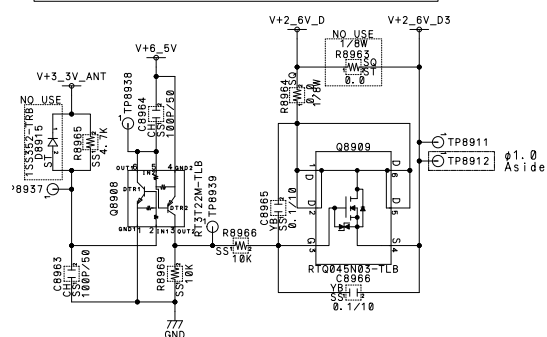


CI_CARD ASS'Y (EU_HD) (01/07)
BOARD_IF BLOCK
AWV2558-

4

for CS_2 F_2





125

7.27 CARD ASSY (3/7) [DVB-S BLOCK]

A

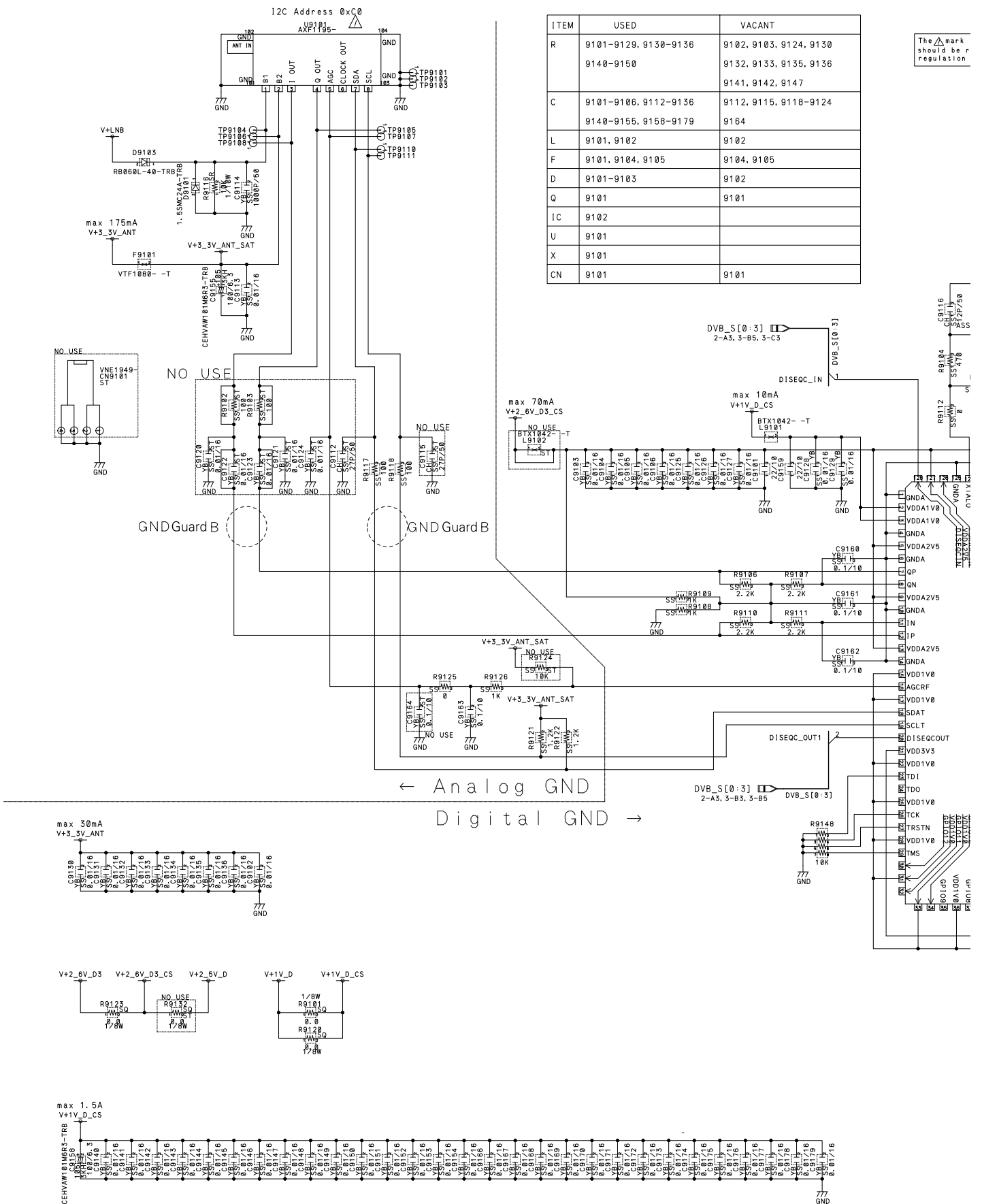
B

C

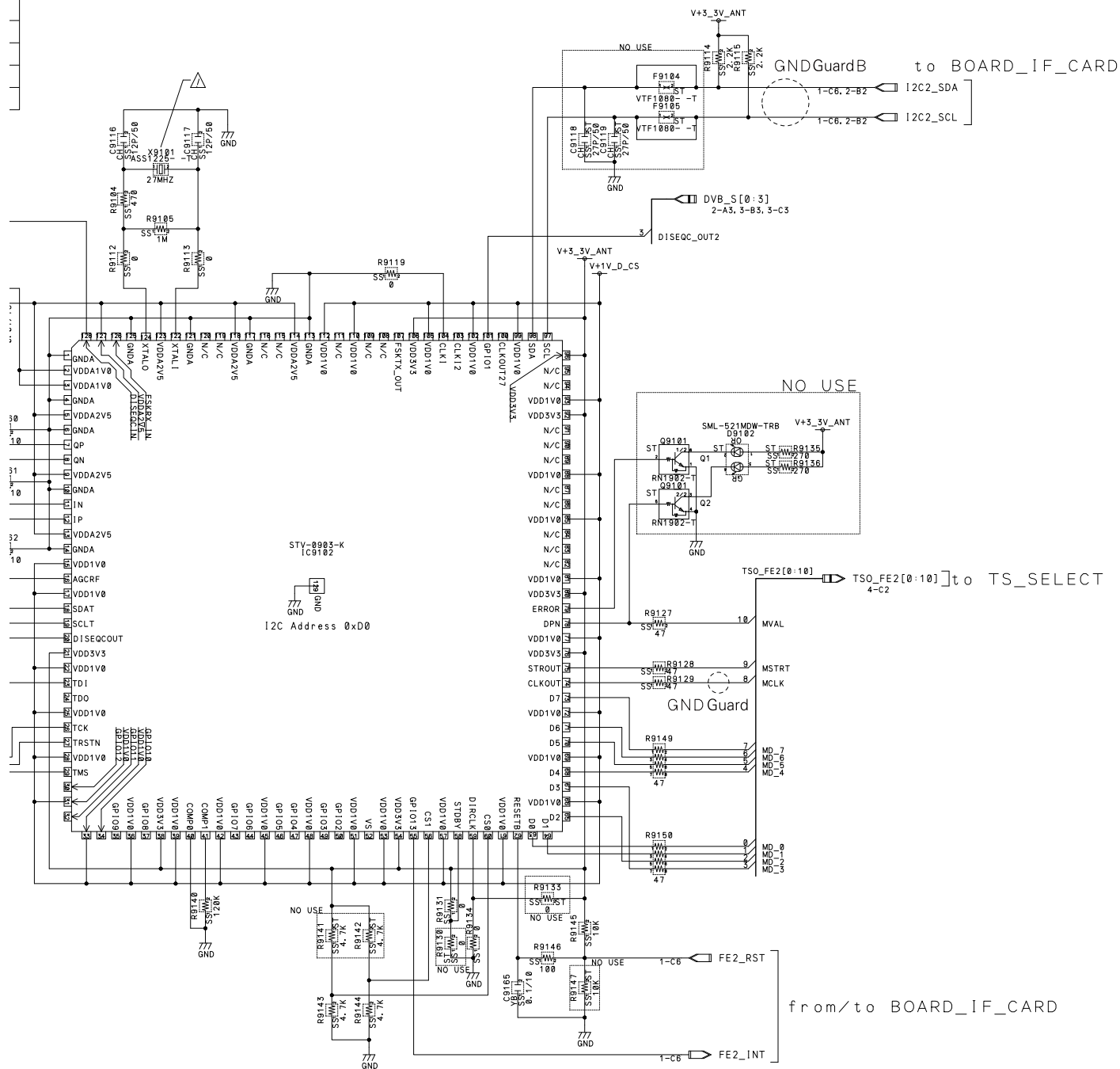
D

E

F



The Δ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.



CI_CARD ASS'Y (EU_HD) (03/07)
DVB-S BLOCK

AWV2558-

1 2 3 4

7.28 CARD ASSY (4/7) [TS_SEL. BLOCK]

A

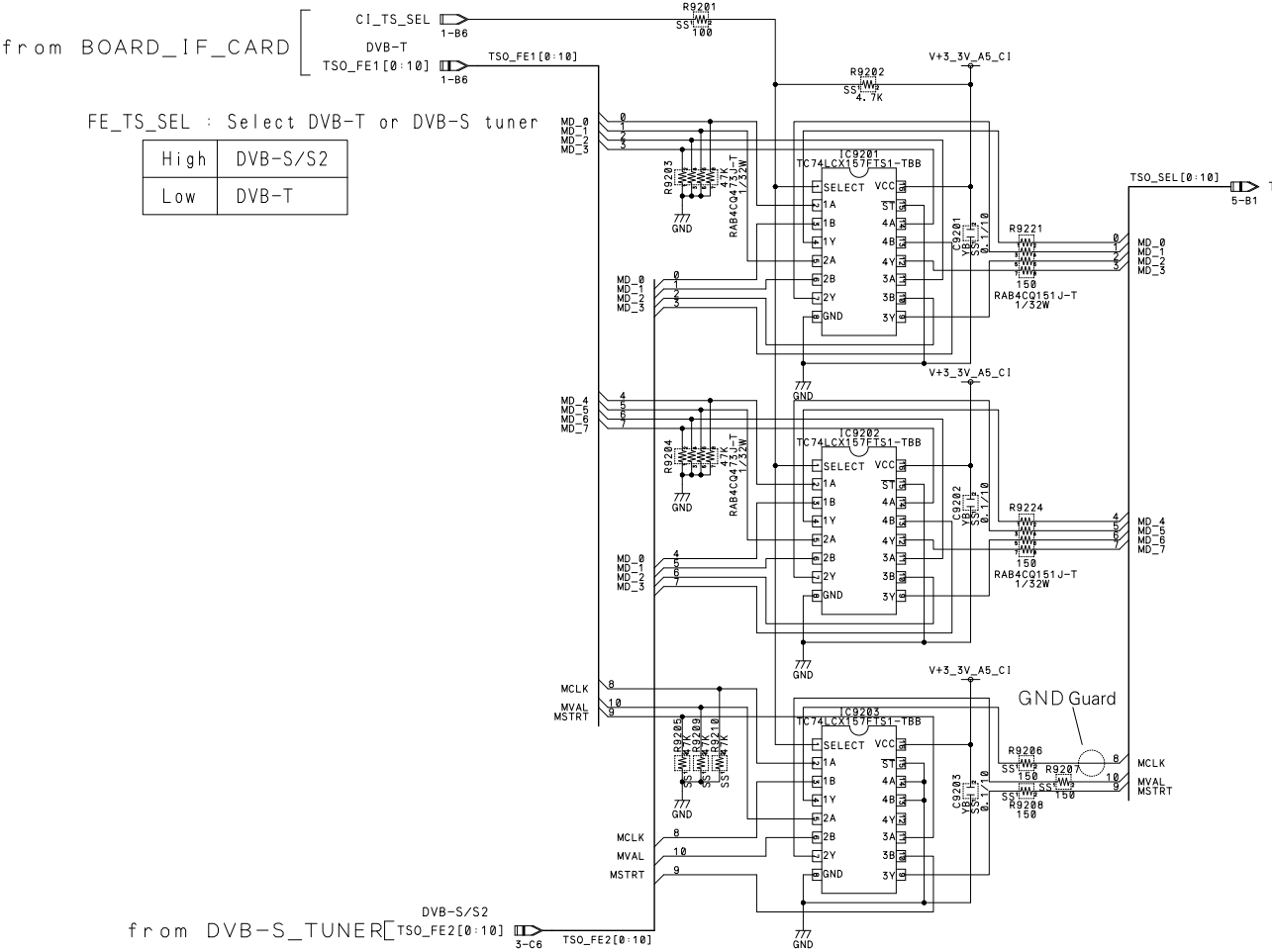
B

C

D

E

F



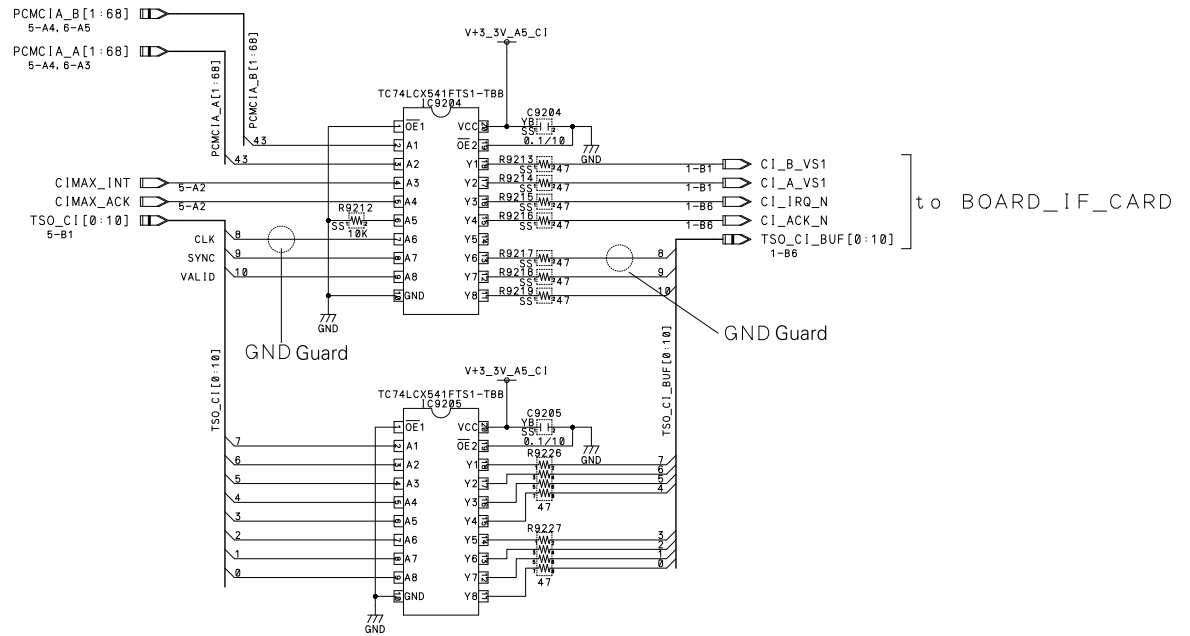
A

ITEM	USED	VACANT
R	9201~9210 9212~9219, 9221, 9224 9226, 9227	
C	9201~9205	
IC	9201~9205	

B

TSO_SEL[0:10] to CIMAX

C



D

E

CI_CARD ASS'Y (EU_HD) (04/07)
TS_SEL. BLOCK

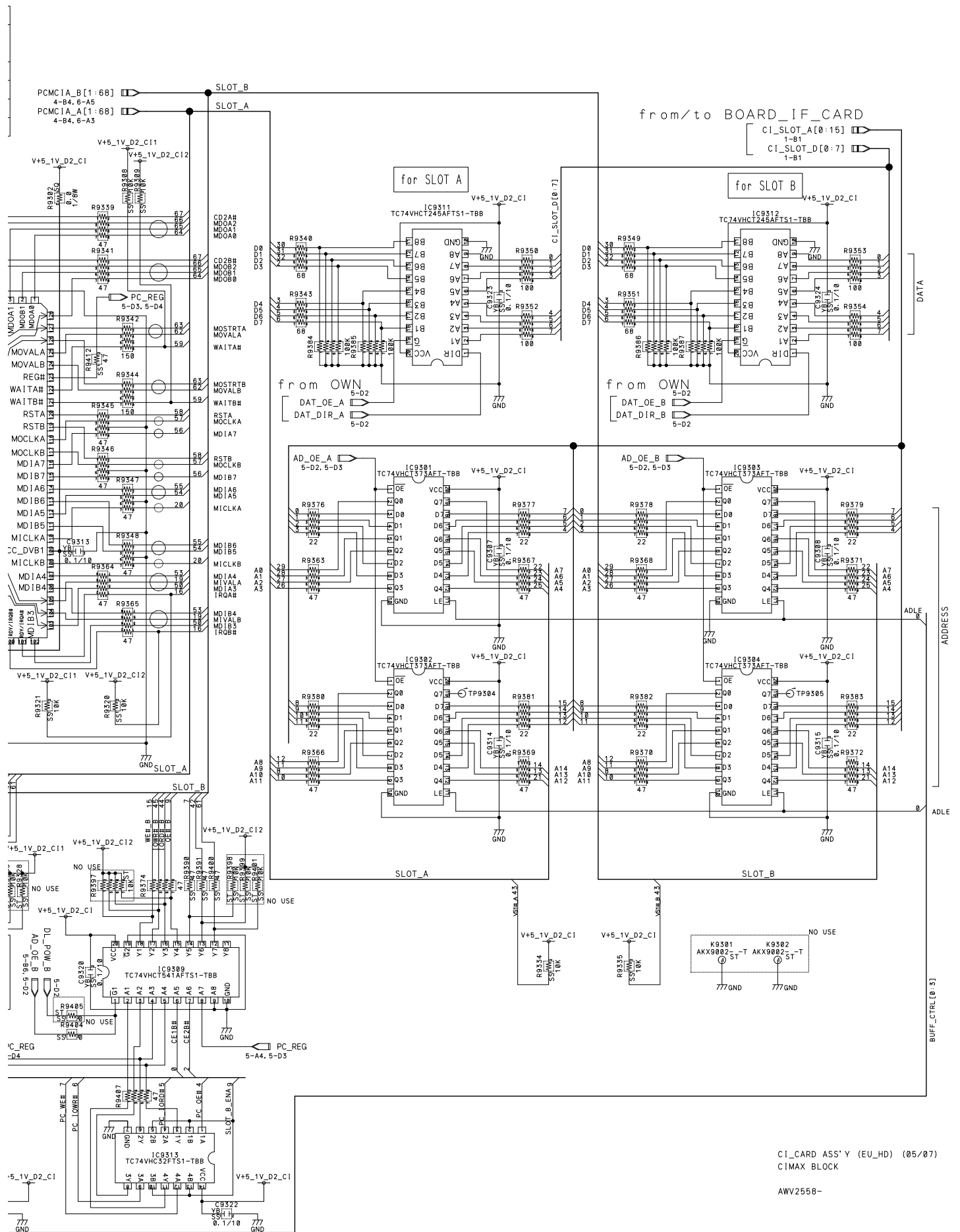
F

AWV2558-

4

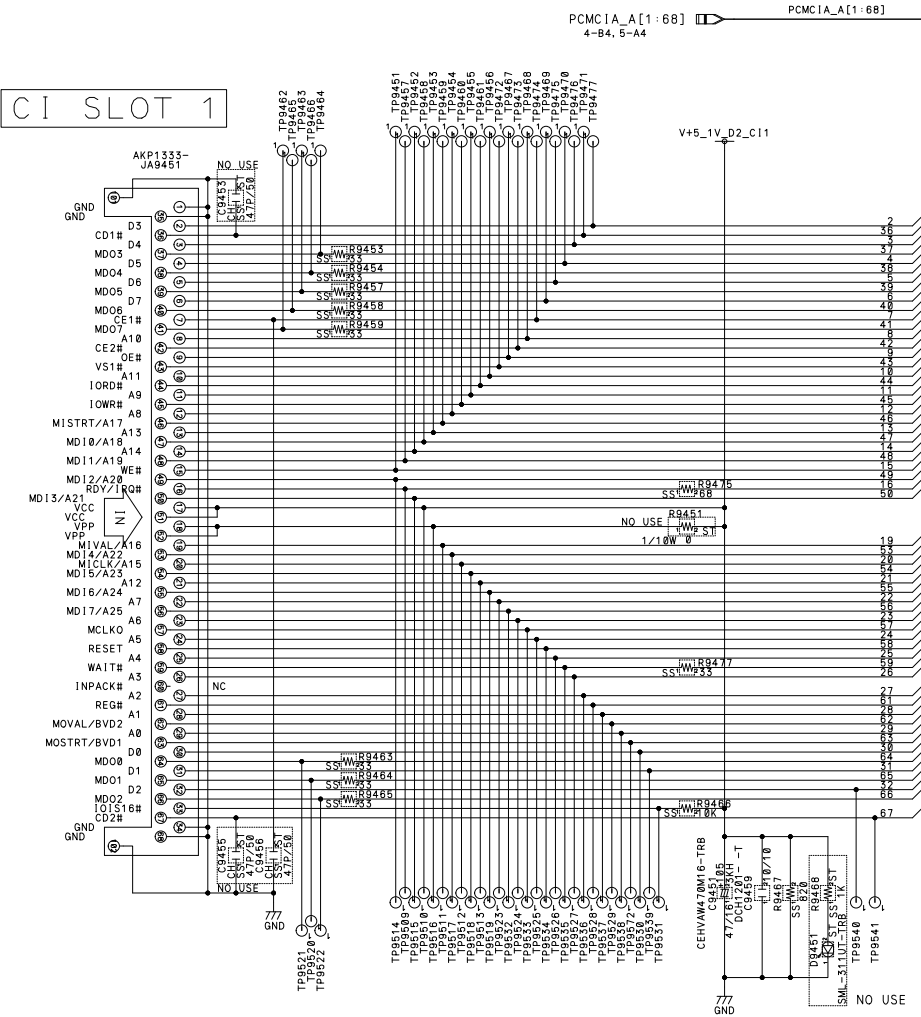
```
PCMCIA_B[1:68] [
    4-B4, 6-A5
PCMCIA_A[1:68] [
    4-B4, 6-A3
```



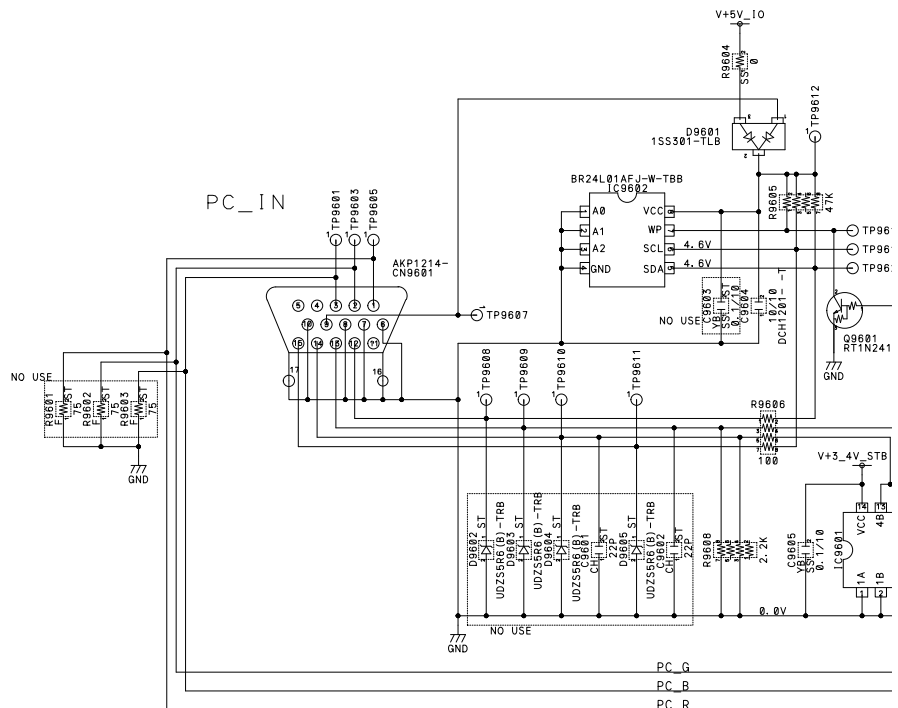


7.30 CARD ASSY (6/7) [CI_SLOT BLOCK]

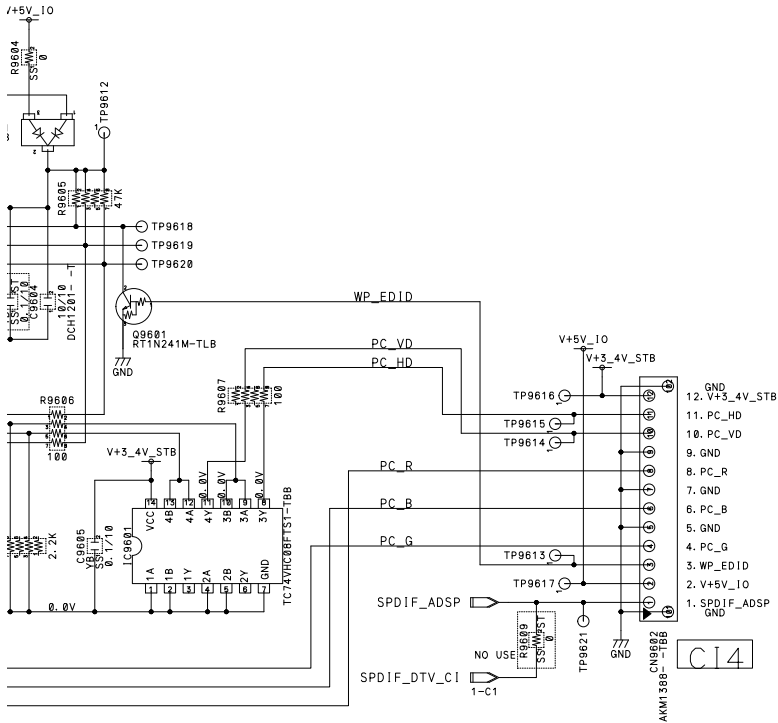
ITEM	USED
R	9451-9478
C	9451-9460
D	9451, 9452
JA	9451, 9452



7.31 CARD ASSY (7/7) [PC BLOCK]



ITEM	USED	VACANT
R	9601-9609	9601-9603, 9609
C	9601-9605	9601-9603
D	9601-9605	9602-9605
Q	9601	
IC	9601, 9602	
CN	9601, 9602	



CI_CARD ASS'Y (EU_HD) (07/07)
PC BLOCK
AWV2558-

7.32 VOLTAGES

MTB MAIN Assy

DIGITAL Assy

M1 CN4105 (AKM1398- -TBB)		Voltage (V)	D12 CN3202 (AKM1398- -TBB)	
NO.	Name		Name	No.
1	MODE_C	0	MODE_C	40
2	GND	0	GND	39
3	GND	0	GND	38
4	GND	0	GND	37
5	B0_ODD	0 / 2.6	B0_ODD	36
6	B1_ODD	0 / 2.6	B1_ODD	35
7	B2_ODD	0 / 2.6	B2_ODD	34
8	B3_ODD	0 / 2.6	B3_ODD	33
9	B4_ODD	0 / 2.6	B4_ODD	32
10	B5_ODD	0 / 2.6	B5_ODD	31
11	B6_ODD	0 / 2.6	B6_ODD	30
12	B7_ODD	0 / 2.6	B7_ODD	29
13	B8_ODD	0 / 2.6	B8_ODD	28
14	B9_ODD	0 / 2.6	B9_ODD	27
15	GND	0	GND	26
16	G0_ODD	0 / 2.6	G0_ODD	25
17	G1_ODD	0 / 2.6	G1_ODD	24
18	G2_ODD	0 / 2.6	G2_ODD	23
19	G3_ODD	0 / 2.6	G3_ODD	22
20	G4_ODD	0 / 2.6	G4_ODD	21
21	G5_ODD	0 / 2.6	G5_ODD	20
22	G6_ODD	0 / 2.6	G6_ODD	19
23	G7_ODD	0 / 2.6	G7_ODD	18
24	G8_ODD	0 / 2.6	G8_ODD	17
25	G9_ODD	0 / 2.6	G9_ODD	16
26	GND	0	GND	15
27	R0_ODD	0 / 2.6	R0_ODD	14
28	R1_ODD	0 / 2.6	R1_ODD	13
29	R2_ODD	0 / 2.6	R2_ODD	12
30	R3_ODD	0 / 2.6	R3_ODD	11
31	R4_ODD	0 / 2.6	R4_ODD	10
32	R5_ODD	0 / 2.6	R5_ODD	9
33	R6_ODD	0 / 2.6	R6_ODD	8
34	R7_ODD	0 / 2.6	R7_ODD	7
35	R8_ODD	0 / 2.6	R8_ODD	6
36	R9_ODD	0 / 2.6	R9_ODD	5
37	GND	0	GND	4
38	GND	0	GND	3
39	SQ_SEL	0	SQ_SEL	2
40	MODE_B	0	MODE_B	1

MTB MAIN Assy

DIGITAL Assy

M4 CN4101 (AKM1399- -TBB)		Voltage (V)	D11 CN3201 (AKM1399- -TBB)	
NO.	Name		Name	No.
1	MODE_A	0	MODE_A	50
2	GND	0	GND	49
3	B0_EVN	0 / 2.6	B0_EVN	48
4	B1_EVN	0 / 2.6	B1_EVN	47
5	B2_EVN	0 / 2.6	B2_EVN	46
6	B3_EVN	0 / 2.6	B3_EVN	45
7	B4_EVN	0 / 2.6	B4_EVN	44
8	B5_EVN	0 / 2.6	B5_EVN	43
9	B6_EVN	0 / 2.6	B6_EVN	42
10	B7_EVN	0 / 2.6	B7_EVN	41
11	B8_EVN	0 / 2.6	B8_EVN	40
12	B9_EVN	0 / 2.6	B9_EVN	39
13	GND	0	GND	38
14	G0_EVN	0 / 2.6	G0_EVN	37
15	G1_EVN	0 / 2.6	G1_EVN	36
16	G2_EVN	0 / 2.6	G2_EVN	35
17	G3_EVN	0 / 2.6	G3_EVN	34
18	G4_EVN	0 / 2.6	G4_EVN	33
19	G5_EVN	0 / 2.6	G5_EVN	32
20	G6_EVN	0 / 2.6	G6_EVN	31
21	G7_EVN	0 / 2.6	G7_EVN	30
22	G8_EVN	0 / 2.6	G8_EVN	29
23	G9_EVN	0 / 2.6	G9_EVN	28
24	GND	0	GND	27
25	R0_EVN	0 / 2.6	R0_EVN	26
26	R1_EVN	0 / 2.6	R1_EVN	25
27	R2_EVN	0 / 2.6	R2_EVN	24
28	R3_EVN	0 / 2.6	R3_EVN	23
29	R4_EVN	0 / 2.6	R4_EVN	22
30	R5_EVN	0 / 2.6	R5_EVN	21
31	R6_EVN	0 / 2.6	R6_EVN	20
32	R7_EVN	0 / 2.6	R7_EVN	19
33	R8_EVN	0 / 2.6	R8_EVN	18
34	R9_EVN	0 / 2.6	R9_EVN	17
35	GND	0	GND	16
36	CLK	0 / 2.6	CLK	15
37	GND	0	GND	14
38	DE	0 / 2.6	DE	13
39	HD	0 / 2.6	HD	12
40	VD	0 / 2.6	VD	11
41	THEATER	0	THEATER	10
42	GND	0	GND	9
43	TXD_MD	0 / 3.3	TXD_MD	8
44	RXD_MD	0 / 3.3	RXD_MD	7
45	REQ_MD	0	REQ_MD	6
46	RELAY2	3.3	RELAY2	5
47	ARIA_OE	3.1	MULTI_OE	4
48	GND	0	GND	3
49	NC	0	NC	2
50	V+3_4V_ACT2	3.4	V+3_4V_ACT2	1

MTB MAIN Assy

POWER SPPLY UNIT

MTB MAIN Assy

POWER SPPLY UNIT

M2 CN4207 (KM200NA14)		Voltage (V)	P7 ---- (B14B-PH-K-S)	
NO.	Name		Name	No.
1	AC_DET	3.3	AC_DET	1
2	GND	0	GND_D	2
3	V+17V	17	V+17V	3
4	GND	0	GND_D	4
5	GND	0	GND_D	5
6	V+3_4V_STB	3.4	V+3.4V_STB	6
7	V+3_4V_STB	3.4	V+3.4V_STB	7
8	V+3_4V_STB	3.4	V+3.4V_STB	8
9	V+3_4V_STB	3.4	V+3.4V_STB	9
10	V+3_4V_STB	3.4	V+3.4V_STB	10
11	GND	0	GND_D	11
12	GND	0	GND_D	12
13	NC(Relay)	0	NC	13
14	M_SW_DET	3.3	M_SW_DET	14

M3 CN4210 (KM200NA15)		Voltage (V)	P6 ---- (B15B-PH-K-S)	
NO.	Name		Name	No.
1	V+5_1V_STB	5.1	V+5.1V_STB	1
2	GND	0	GND_D	2
3	GND	0	GND_D	3
4	GND	0	GND_D	4
5	GND	0	GND_D	5
6	GND	0	GND_D	6
7	V+6_5V	6.5	V+6.5V	7
8	V+6_5V	6.5	V+6.5V	8
9	V+6_5V	6.5	V+6.5V	9
10	V+6_5V	6.5	V+6.5V	10
11	V+6_5V	6.5	V+6.5V	11
12	V+6_5V	6.5	V+6.5V	12
13	GND	0	GND_D	13
14	V+12V	12	V+12V	14
15	V+12V	12	V+12V	15

MTB MAIN Assy

FAN CONNECT Assy

MTB MAIN Assy

USB CABLE

M5 CN4202 (KM200NA4)		Voltage (V)	FA1 CN8761 (KM200NA4)	
NO.	Name		Name	No.
1	FAN_VCC2	0.3		1
2	FAN_VCC1	0.3		2
3	GND	0		3
4	FAN_NG2	3.3		4

M6 CN4107 (AKM1276- -TBB)		Voltage (V)	J301 ---- (----)	
NO.	Name		Name	No.
1	VBUS	5.1	VBUS	1
2	D-	0	D-	2
3	D+	0	D+	3
4	GND	0	GND	4
5	SHELD	0	SHELD	4

MTB MAIN Assy

SIDE KEY Assy

MTB MAIN Assy

LED Assy

M11 CN4209 (KM200NA10)		Voltage (V)	SW1 CN8701 (AKM1431-)	
NO.	Name		Name	No.
1	LED-			
2	LED_ON			
3	LED_OFF			
4	LED_TIMER			
5	LED-			
6	LED-			
7	GND	0	GND	1
8	KEY2	3.4	KEY2	2
9	KEY1	3.4	KEY1	3
10	V+3_4V_STB	3.4	V+3_4V_STB	4

M11 CN4209 (KM200NA10)		Voltage (V)	L1 CN8721 (AKM1425- -TBB)	
NO.	Name		Name	No.
1	LED-	0	LED-	1
2	LED_ON	2.8	LED_ON	2
3	LED_OFF	0	LED_OFF	3
4	LED_TIMER	0	LED_TIMER	4
5	LED-	0	LED-	5
6	LED-	0	LED-	6
7	GND			
8	KEY2			
9	KEY1			
10	V+3_4V_STB			

MTB MAIN Assy

FAN

M10 CN4201 (KM200NA3)		Voltage (V)	RESERVED	
NO.	Name		Name	No.
1	FAN_VCC			
2	FAN_NG1			
3	GND			

MTB MAIN Assy

IO_AUDIO Assy

M12 CN4003 (AKM1399- -TBB)		Voltage (V)	IO3 CN7503 (AKM1399- -TBB)	
NO.	Name		Name	No.
1	GND	0	GND	50
2	HP_PLUG	0	HP_PLUG	49
3	WP_EDID	0	WP_EDID	48
4	DSUB_DET	0	DSUB_DET	47
5	AC_HP_MUTE	2.8	AC_HP_MUTE	46
6	GND	0	GND	45
7	SDA_AV	0 / 3.3	SDA_AV	44
8	SCL_AV	0 / 3.3	SCL_AV	43
9	GND	0	GND	42
10	AC_A_MUTE	0	AC_A_MUTE	41
11	RST_MSP	0	RST_MSP	40
12	OTW	2.9	OTW	39
13	A_NG_B	2.9	A_NG_B	38
14	GND	0	GND	37
15	I2S_BCLK_DTV	0 / 3.3	I2S_BCLK_DTV	36
16	GND	0	GND	35
17	I2S_LRCLK_DTV	0 / 3.3	I2S_LRCLK_DTV	34
18	I2S_SDATA_DTV	0	I2S_SDATA_DTV	33
19	GND	0	GND	32
20	GND	0	GND(I2S_BCLK_HDMI)	31
21	GND	0	GND	30
22	SPDIF_HDMI	0 / 3.1	SPDIF_HDMI	29
23	GND	0	GND(I2S_SDATA_HDMI)	28
24	GND	0	GND	27
25	SPDIF_DTV	0 / 3.1	SPDIF_DTV	26
26	GND	0	GND	25
27	EMMA_DA_GY	0 / 0.3	EMMA_DA_GY	24
28	EMMA_DA_BCB	0.7	EMMA_DA_BCB	23
29	EMMA_DA_RCR	0.7	EMMA_DA_RCR	22
30	GND	0	GND	21
31	EXT_HD	0 / 3.2	EXT_HD	20
32	EXT_VD	0 / 3.2	EXT_VD	19
33	INT_VD	0 / 3.2	INT_VD	18
34	INT_HD	0 / 3.2	INT_HD	17
35	CLP_RGB1	0 / 3.3	CLP_RGB1	16
36	CLP_RGB2	0 / 3.3	CLP_RGB2	15
37	GND	0	GND	14
38	SDA_AV5	0 / 5.0	SDA_AV5	13
39	SCL_AV5	0 / 5.0	SCL_AV5	12
40	GND	0	GND	11
41	SR_OUT	4.8	SR_OUT	10
42	TXD_SR	3.1	TXD_SR	9
43	RXD_SR	3.1	RXD_SR	8
44	GND	0	GND	7
45	TXD_232C_1	3.3	TXD_232C_1	6
46	RXD_232C_1	3.3	RXD_232C_1	5
47	NC(232C_EN_B)	0	NC(232C_EN_B)	4
48	232C_DET	3.3	232C_DET	3
49	RST4	3.3	RST4	2
50	GND(IO_DET)	0	GND(IO_DET)	1

MTB MAIN Assy

IO_AUDIO Assy

M13 CN4004 (AKM1398- -TBB)		Voltage (V)	IO4 CN7504 (AKM13998- -TBB)	
NO.	Name		Name	No.
1	GND	0	GND	40
2	RCR_AD	1.0 / 1.7	RCR_AD	39
3	GND	0	GND	38
4	BCB_AD	1.0 / 1.7	BCB_AD	37
5	GND	0	GND	36
6	GY_AD	1.1 / 2.1	GY_AD	35
7	GND	0	GND	34
8	RCR_VDEC	1.4 / 2.1	RCR_VDEC	33
9	GND	0	GND	32
10	BCB_VDEC	1.4 / 2.1	BCB_VDEC	31
11	GND	0	GND	30
12	GY_VDEC	1.4 / 2.1	GY_VDEC	29
13	GND	0	GND	28
14	FB_VDEC	0 or 3.2	FB_VDEC	27
15	GND	0	GND	26
16	VBI_Y	1.5 / 2.7	VBI_Y	25
17	GND	0	GND	24
18	MAIN_C	1.9 / 2.4	MAIN_C	23
19	GND	0	GND	22
20	MAIN_Y	1.5 / 2.4	MAIN_Y	21
21	GND	0	GND	20
22	SUB_C	1.9 / 2.4	SUB_C	19
23	GND	0	GND	18
24	SUB_Y	1.5 / 2.4	SUB_Y	17
25	GND	0	GND	16
26	A_TUNER_V	1.3 / 2.2	A_TUNER_V	15
27	GND	0	GND	14
28	DT_MON_CVBS	2.0 / 3.0	DT_MON_CVBS	13
29	GND	0	GND	12
30	AIR_SIF	2.8 / 3.6	AIR_SIF	11
31	GND	0	GND	10
32	AC_AM_MUTE	0	AC_AM_MUTE	9
33	TEMP2	DC	TEMP2	8
34	AC_SC1_MUTE	0	AC_SC1_MUTE	7
35	LINK_IO2	4.7	LINK_IO2	6
36	AC_SC2_MUTE	0	AC_SC2_MUTE	5
37	LINK_IO3	4.7	LINK_IO3	4
38	AC_SC3_MUTE	0	AC_SC3_MUTE	3
39	NC(IR_OUT)	0	NC(IR_OUT)	2
40	GND	0	GND	1

MTB MAIN Assy**IO_AUDIO Assy**

M14 CN4005 (AKP1320-B)		Voltage (V)	IO1 CN7501 (AKM1377-)	
NO.	Name		Name	No.
1	V+12V	11.3	V+12V	1
2	V+8V_IO	7.9	V+8V_IO	2
3	GND	0	GND	3
4	V+3_4V_D	3.3	V+3_4V_D	4
5	V+3_4V_STB	3.3	V+3_4V_STB	5
6	GND	0	GND	6
7	V+6_5V	6.4	V+6_5V	7

MTB MAIN Assy**RLS Assy**

M15 CN4208 (KM200NA7)		Voltage (V)	RL1 CN8736 (AKM1422- -TBB)	
NO.	Name		Name	No.
1	GND	0	GND	1
2	RLS_L	DC	RLS_L	2
3	V+3_4V_ACT2	3.3	V+3_4V_ACT2	3
4	V+3_4V_STB			
5	REM			
6	GND			
7	NC			

MTB MAIN Assy**IR Assy**

M15 CN4208 (KM200NA7)		Voltage (V)	RE1 CN8751 (AKM1289- -TBB)	
NO.	Name		Name	No.
1	GND			
2	RLS_L			
3	V+3_4V_ACT2			
4	V+3_4V_STB	3.4	V+3_4V_STB	1
5	REM	0 / 3.2	REM	2
6	GND	0	GND	3
7	NC			

MTB MAIN Assy**CARD Assy**

M18 CN4204 (KM200NA9)		Voltage (V)	CI1 CN8801 (KM200NA9L)	
NO.	Name		Name	No.
1	V+6_5V	6.5	V+6_5V	1
2	GND	0	GND	2
3	V+12V	12.0	V+12V	3
4	GND	0	GND	4
5	V+5_1V_D	5.1	V+5_1V_D	5
6	V+5_1V_D	5.1	V+5_1V_D	6
7	GND	0	GND	7
8	V+1_2V_D	1.3	V+1_2V_D	8
9	V+2_6V_D	2.6	V+2_6V_D	9

MTB MAIN Assy

CARD Assy

M16 CN4102 (AKM1399- -TBB)		Voltage (V)	CI2 CN8803 (AKM1399- -TBB)	
NO.	Name		Name	No.
1	GND	0	GND	50
2	SPDIF_DTV_CI	1.5 / 1.7	SPDIF_DTV_CI	49
3	GND	0	GND	48
4	ADSP_RST	3.3	ADSP_RST	47
5	ADSP_INT	0	ADSP_INT	46
6	DIR_RST	3.3	DIR_RST	45
7	DIR_INT	0	DIR_INT	44
8	SPI_SS0B	3.3	SPI_SS0B	43
9	SPI_SS1B	3.3	SPI_SS1B	42
10	SPI_SCK	3.3	SPI_SCK	41
11	SPI_MOSI	3.3	SPI_MOSI	40
12	SPI_NISO	0	SPI_NISO	39
13	GND	0	GND	38
14	CI_B_EN	3.1	CI_B_EN	37
15	CI_B_FAULT_B	0	CI_B_FAULT_B	36
16	CI_A_EN	2.8 / 3.3	CI_A_EN	35
17	CI_A_FAULT_B	0	CI_A_FAULT_B	34
18	GND	0	GND	33
19	CI_D[0]	3.3	CI_D[0]	32
20	CI_D[1]	0	CI_D[1]	31
21	CI_D[2]	0	CI_D[2]	30
22	CI_D[3]	0	CI_D[3]	29
23	GND	0	GND	28
24	CI_D[4]	0	CI_D[4]	27
25	CI_D[5]	0	CI_D[5]	26
26	CI_D[6]	0	CI_D[6]	25
27	CI_D[7]	0	CI_D[7]	24
28	GND	0	GND	23
29	CI_A[0]	0	CI_A[0]	22
30	CI_A[1]	0	CI_A[1]	21
31	CI_A[2]	0	CI_A[2]	20
32	CI_A[3]	0	CI_A[3]	19
33	CI_A[4]	0	CI_A[4]	18
34	CI_A[5]	0	CI_A[5]	17
35	CI_A[6]	0	CI_A[6]	16
36	CI_A[7]	0	CI_A[7]	15
37	GND	0	GND	14
38	CI_A[8]	0	CI_A[8]	13
39	CI_A[9]	0	CI_A[9]	12
40	CI_A[10]	3.3	CI_A[10]	11
41	CI_A[11]	3.3	CI_A[11]	10
42	CI_A[12]	0	CI_A[12]	9
43	CI_A[13]	3.3	CI_A[13]	8
44	CI_A[14]	3.3	CI_A[14]	7
45	CI_A[15]	0	CI_A[15]	6
46	GND	0	GND	5
47	CI_A_VS1	0	CI_A_VS1	4
48	CI_B_VS1	3.3	CI_B_VS1	3
49	GND	0	GND	2
50	CARD_DET2	3.3	CARD_DET2	1

MTB MAIN Assy

CARD Assy

M17 CN4106 (AKM1399- -TBB)		Voltage (V)	CI3 CN8804 (AKM1399- -TBB)	
NO.	Name		Name	No.
1	CARD_DET1	0	CARD_DET1	50
2	GND	0	GND	49
3	I2C_CI_SDA	3.3	I2C_CI_SDA	48
4	I2C_CI_SCL	3.3	I2C_CI_SCL	47
5	GND	0	GND	46
6	CI_IRQ_N	3.3	CI_IRQ_N	45
7	CI_RW_N	3.3	CI_RW_N	44
8	CI_RD_N	3.3	CI_RD_N	43
9	CI_ACK_N	3.3	CI_ACK_N	42
10	CI_CS_N	3.3	CI_CS_N	41
11	CI_RST	0.1	CI_RST	40
12	GND	0	GND	39
13	CI_MCLK	0 / 3.3	CI_MCLK	38
14	GND	0	GND	37
15	GND	0	GND	36
16	TSO_DATA0	0 / 3.3	TSO_DATA0	35
17	TSO_DATA1	0 / 3.3	TSO_DATA1	34
18	TSO_DATA2	0 / 3.3	TSO_DATA2	33
19	TSO_DATA3	0 / 3.3	TSO_DATA3	32
20	TSO_DATA4	0 / 3.3	TSO_DATA4	31
21	TSO_DATA5	0 / 3.3	TSO_DATA5	30
22	TSO_DATA6	0 / 3.3	TSO_DATA6	29
23	TSO_DATA7	0 / 3.3	TSO_DATA7	28
24	TSO_VALID	0 / 3.3	TSO_VALID	27
25	TSO_SYNC	0 / 3.3	TSO_SYNC	26
26	GND	0	GND	25
27	TSO_CLK	0 / 3.3	TSO_CLK	24
28	GND	0	GND	23
29	TSI_DATA0	0 / 3.3	TSI_DATA0	22
30	TSI_DATA1	0 / 3.3	TSI_DATA1	21
31	TSI_DATA2	0 / 3.3	TSI_DATA2	20
32	TSI_DATA3	0 / 3.3	TSI_DATA3	19
33	TSI_DATA4	0 / 3.3	TSI_DATA4	18
34	TSI_DATA5	0 / 3.3	TSI_DATA5	17
35	TSI_DATA6	0 / 3.3	TSI_DATA6	16
36	TSI_DATA7	0 / 3.3	TSI_DATA7	15
37	TSI_VALID	0 / 3.3	TSI_VALID	14
38	TSI_SYNC	0 / 3.3	TSI_SYNC	13
39	GND	0	GND	12
40	TSI_CLK	0 / 3.3	TSI_CLK	11
41	GND	0	GND	10
42	FE_TS_SEL	0	FE_TS_SEL	9
43	EMG_DDC	3.8	EMG_DDC	8
44	DD_RST	0	DD_RST	7
45	FE2_RST	3.3	FE2_RST	6
46	FE2_INT	3.0	FE2_INT	5
47	GND	0	GND	4
48	I2C2_SDA	3.3	I2C2_SDA	3
49	I2C2_SCL	3.3	I2C2_SCL	2
50	GND	0	GND	1

IO_AUDIO Assy**CARD Assy**

IO6 CN7506 (AKM1385- -TBB)		Voltage (V)	C14 CN9602 (AKM1388- -TBB)	
NO.	Name		Name	No.
1	V+3_4V_STB	3.4	V+3_4V_STB	12
2	PC_HD	0 / 3.4	PC_HD	11
3	PC_VD	0 / 3.4	PC_VD	10
4	GND	0	GND	9
5	PC_R	0 / 0.7	PC_R	8
6	GND	0	GND	7
7	PC_B	0 / 0.7	PC_B	6
8	GND	0	GND	5
9	PC_G	0 / 0.7	PC_G	4
10	WP_EDID	0	WP_EDID	3
11	V+5V_IO	5.0	V+5V_IO	2
12	SPDIF_ADSP	3.1	SPDIF_ADSP	1

IO_AUDIO Assy**SIDE IO Assy**

IO5 CN7505 (AKM1371-)		Voltage (V)	S1 CN8601 (AKM1438-)	
NO.	Name		Name	No.
1	HP_PLUG	0	HP_PLUG	1
2	GND	0	GND	2
3	SIDE_R	-0.2 / 0.2	SIDE_R	3
4	GND	0	GND	4
5	SIDE_L	-0.2 / 0.2	SIDE_L	5
6	GND	0	GND	6
7	HP_R	2.0 / 2.3	HP_R	7
8	GND	0	GND	8
9	HP_L	2.0 / 2.3	HP_L	9
10	GND	0	GND	10
11	SIDE_V	-0.3 / 0.9	SIDE_V	11

IO_AUDIO Assy**POWER SUPPLY UNIT**

IO2 CN7502 (B5P-VH)		Voltage (V)	P5 ---- (B5P-VH)	
NO.	Name		Name	No.
1	V+17V	17	V+17V	1
2	V+17V	17	V+17V	2
3	GND	0	GND-D	3
4	GND	0	GND-D	4
5	GND	0	GND-D	5



1



2



3



4



A



B



C



D



E



F



1



2



3




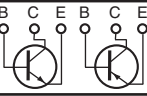

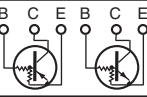

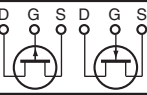

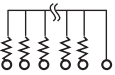


4



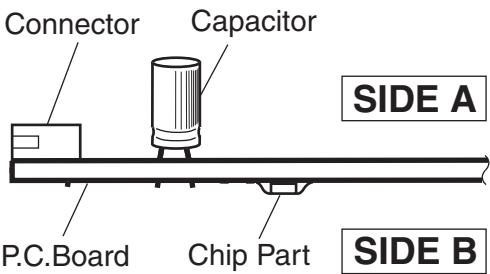
8. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

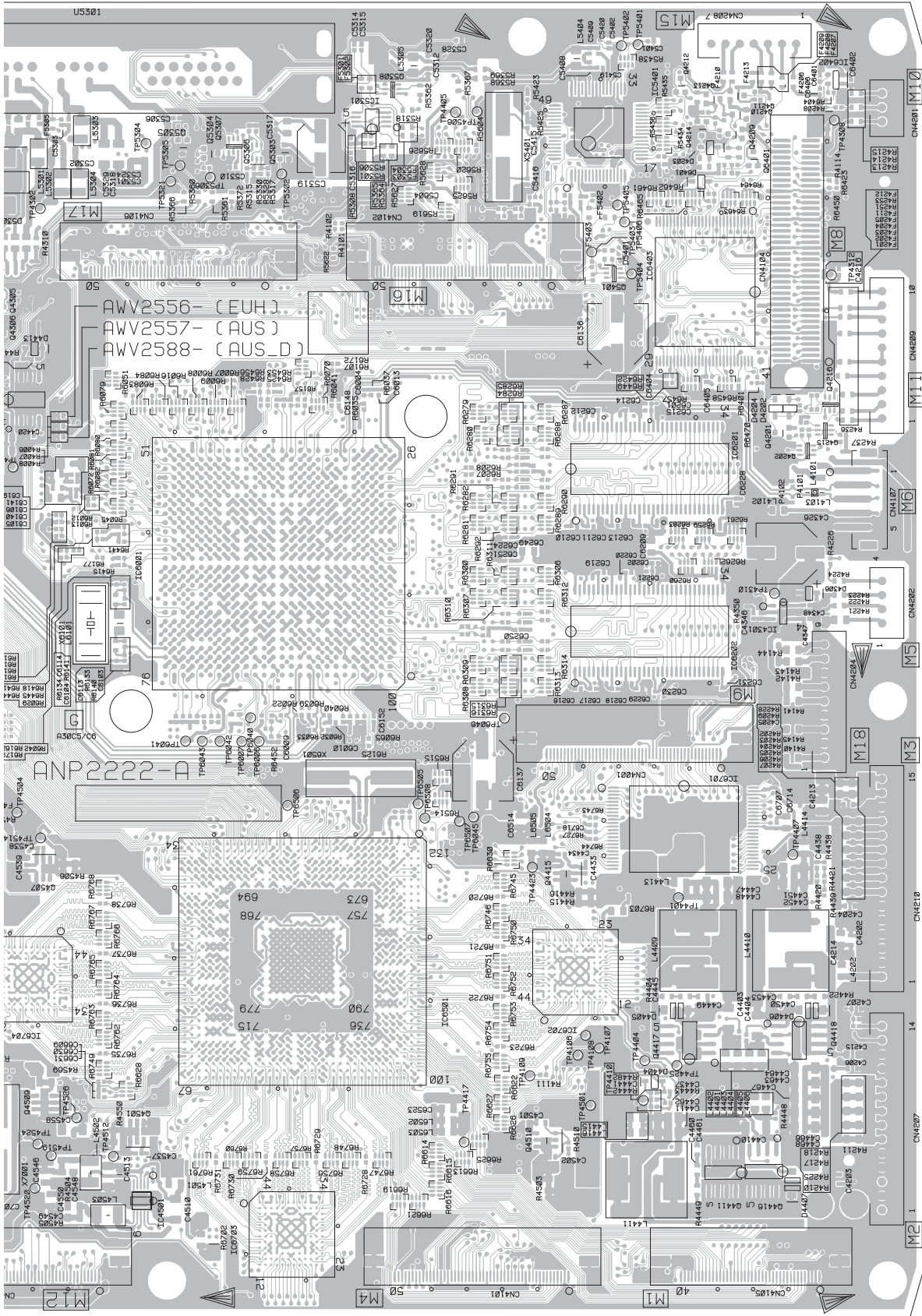
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



SIDE A

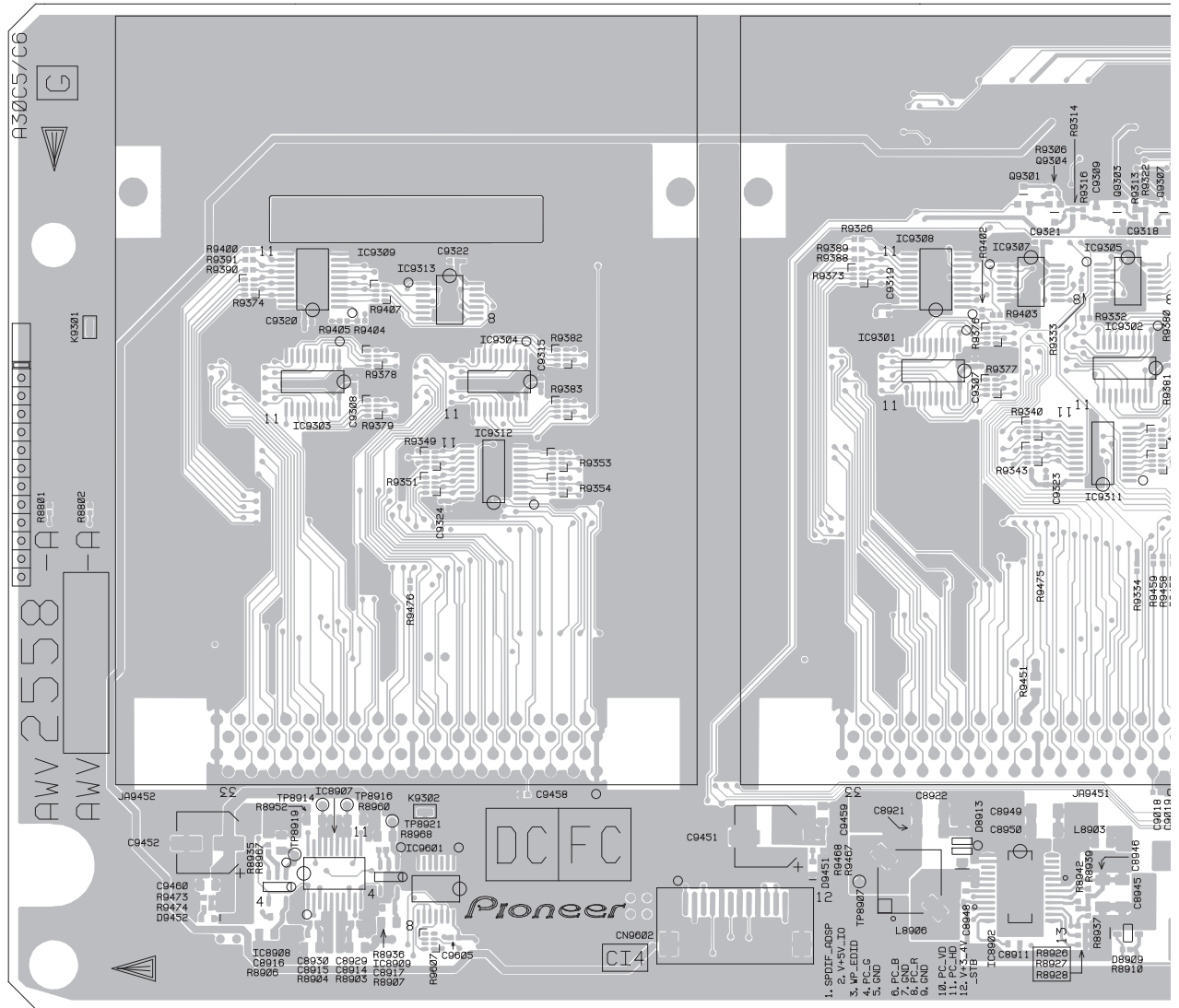
PDP-LX5090H



(ANP2222-A)



SIDE A

CARD ASSY

9. PCB PARTS LIST

NOTES: ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.

● The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

● When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47 k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω → 56 × 10¹ → 561 RD1/4PU 5 6 1 J

47 kΩ → 47 × 10³ → 473 RD1/4PU 4 7 3 J

0.5 Ω → R50 RN2H R 5 0 K

1 Ω → 1R0 RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62 kΩ → 562 × 10¹ → 5621 RN1/4PC 5 6 2 1 F

● Meaning of the figures and others in the parentheses in the parts list.

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

IC 301 (A, 91, 111) IC NJM2068V

Mark No. Description Part No.

LIST OF ASSEMBLIES

NSP	1..P.CHASSIS(509FE)ASSY	AWU1297
NSP	2..50F ADDRESS ASSY	AWV2544
NSP	3..50F ADDRESS L ASSY	AWW1348
NSP	3..50F ADDRESS S ASSY	AWW1349
NSP	2..50F SCAN ASSY	AWV2548
NSP	3..50F SCAN A ASSY	AWW1350
NSP	3..50F SCAN B ASS'Y	AWW1351
NSP	1..50F DIGITAL ASSY	AWV2543
	2..SENSOR ASSY	AWW1340
	2..50F DIGITAL ASSY	AWW1347
	1..50F X DRIVE ASSY	AWV2546
	1..50F Y DRIVE ASSY	AWV2547
⚠ NSP	1..FUKUGO ASSY(EU HD)	AWV2552
	2..IO AUDIO ASSY(EU SD)	AWW1354
	2..SIDE IO ASSY(EU)	AWW1358
	2..SIDE KEY ASSY	AWW1361
	2..LED ASSY	AWW1362
	2..IR ASSY	AWW1363
	2..FAN CONNECT ASSY	AWW1364
	2..RLS ASSY	AWW1365
	2..POWER SW ASSY	AWW1366
⚠	1..MAIN ASSY (EU HD)	AWV2556
	1..CARD ASSY (EU HD)	AWV2558
⚠	1..POWER SUPPLY UNIT	AXY1200

Mark No. Description Part No.

Unit Name: 50F ADDRESS L ASSY

SEMICONDUCTORS

IC	1601	PEE005B
IC	1701	TND307TD
Q	1711,1721,1731,1741	RJM1001DSP
Q	1791	RN1901
Q	1792	2SA1576A
D	1701	1SS302
D	1711,1721,1731,1741	UDZS15(B)
D	1712,1722,1732,1742	RF05VA2S
D	1713,1714,1723,1724	RF04UA2D
D	1733,1734,1743,1744	RF04UA2D

MISCELLANEOUS

L	1601-1603 CHIP SOLID INDUCTOR	QTL1013
L	1711,1721,1731,1741 INDUCTOR (1.2 uH)	ATH1233
CN	1601 CONNECTOR	AKM1289
CN	1602 26P CONNECTOR	AKM1397

RESISTORS

R	1601-1605	RS1/16SS1000F
R	1606-1629,1632,1638	RS1/16SS470J
R	1630,1631,1634,1640	RS1/16SS220J
R	1636	RS1/16SS330J
R	1641,1644,1646	RS1/16SS220J
R	1642,1648	RS1/16SS470J
R	1650	RS1/16SS472J
R	1652,1653,1662,1663	RS1/16SS0R0J
R	1672,1673,1682,1683	RS1/16SS0R0J
	Other Resistors	RS1/10SR###J

CAPACITORS

C	1602,1607,1609	CKSRYB105K6R3
C	1603-1606	CKSRYB104K16
C	1611	CKSSYB102K50
C	1652,1662,1672,1682	ACG1105
C	1653,1663,1673,1683	CKSSYB104K10
C	1654,1674	CCSSCH680J50
C	1664,1684	CCSSCH220J50
C	1701	CKSQYB105K16
C	1702	ACG1154
C	1711,1721,1731,1741	ACG1137
C	1712,1722,1732,1742	ACG1123

5	6	7	8				
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
Unit Name: 50F ADDRESS S ASSY				Unit Name: 50F SCAN B ASSY			
SEMICONDUCTORS				SEMICONDUCTORS			
IC	1801		PEE005B	C	2825,2834,2835,2844		CCSRCH151J50
IC	1901		TND307TD	C	2830-2832,2840-2842		CCSRCH220J50
Q	1911,1921,1931		RJM1001DSP	C	2845,2854,2855,2864		CCSRCH151J50
Q	1991		RN1901	C	2850-2852,2860-2862		CCSRCH220J50
Q	1992		2SA1576A	C	2853,2863,2873,2883		CCSRCH680J50
D	1901		1SS302	C	2857,2867,2877,2887		CKSRYB105K6R3
D	1911,1921,1931		UDZS15(B)	C	2858,2868,2878,2888		ACG1125
D	1912,1922,1932		RF05VA2S	C	2865,2874,2875,2884		CCSRCH151J50
D	1913,1914,1923,1924		RF04UA2D	C	2870-2872,2880-2882		CCSRCH220J50
D	1933,1934		RF04UA2D	C	2885		CCSRCH151J50
MISCELLANEOUS				SEMICONDUCTORS			
L	1801-1803	CHIP SOLID INDUCTOR	QTL1013	IC	2901-2908		AN16184A
L	1911,1921,1931	INDUCTOR (1.2 uH)	ATH1233	D	2900-2905		MC2850-11
CN	1801	CONNECTOR	AKM1289	D	2995		RB551V-30
CN	1802	26P CONNECTOR	AKM1397	MISCELLANEOUS			
RESISTORS				CN	2901	3PIECE CONNECTOR 15P	AKP1328
R	1801-1805		RS1/16SS1000F	RESISTORS			
R	1806-1823,1832,1836		RS1/16SS470J	R	2912,2922,2932,2942		RAB4C221J
R	1830,1831,1840,1841		RS1/16SS220J	R	2952,2962,2972,2982		RAB4C221J
R	1834,1844,1846		RS1/16SS330J	Other Resistors			
R	1842		RS1/16SS470J				RS1/10SR###J
R	1850		RS1/16SS472J	CAPACITORS			
R	1852,1853,1862,1863		RS1/16SS0R0J	C	2911,2912,2916,2921		CCSRCH220J50
R	1872,1873		RS1/16SS0R0J	C	2913,2923,2933,2943		CCSRCH680J50
Other Resistors			RS1/10SR###J	C	2914,2915,2924,2925		CCSRCH151J50
CAPACITORS				C	2917,2927,2937,2947		CKSRYB105K6R3
C	1802,1807,1809		CKSRYB105K6R3	C	2918,2928,2938,2948		ACG1125
C	1803-1806		CKSRYB104K16	C	2922,2926,2931,2932		CCSRCH220J50
C	1811		CKSSYB102K50	C	2934,2935,2944,2945		CCSRCH151J50
C	1852,1862,1872		ACG1105	C	2936,2941,2942,2946		CCSRCH220J50
C	1853,1863,1873		CKSSYB104K10	C	2951,2952,2956,2961		CCSRCH220J50
C	1854,1874		CCSSCH220J50	C	2953,2963,2973,2983		CCSRCH680J50
C	1864		CCSSCH680J50	C	2954,2955,2964,2965		CCSRCH151J50
C	1901		CKSQYB105K16	C	2957,2967,2977,2987		CKSRYB105K6R3
C	1902		ACG1154	C	2958,2968,2978,2988		ACG1125
C	1911,1921,1931		ACG1137	C	2962,2966,2971,2972		CCSRCH220J50
C	1912,1922,1932		ACG1123	C	2974,2975,2984-2986		CCSRCH151J50
Unit Name: 50F SCAN A ASSY				C	2976,2981,2982		CCSRCH220J50
SEMICONDUCTORS				Unit Name: SENSOR ASSY			
IC	2801-2808		AN16184A	SEMICONDUCTORS			
D	2800-2805		MC2850-11	IC	3901		MM1522XU
D	2895		RB551V-30	IC	3902		BR24L02FJ-W
MISCELLANEOUS				Q	3901		HN1B04FU
CN	2801	3PIECE CONNECTOR 15P	AKP1328	MISCELLANEOUS			
RESISTORS				CN	3901	5PIN CONNECTOR	AKM1404
R	2812,2822,2832,2842		RAB4C221J	RESISTORS			
R	2852,2862,2872,2882		RAB4C221J	All Resistors			
Other Resistors			RS1/10SR###J				RS1/16SS###J
CAPACITORS				CAPACITORS			
C	2810,2814,2815,2824		CCSRCH151J50	C	3901,3902		CKSRYB105K6R3
C	2811,2812,2820-2822		CCSRCH220J50	C	3905,3906		CKSSYB104K10
C	2813,2823,2833,2843		CCSRCH680J50	Unit Name: 50F DIGITAL ASSY			
C	2817,2827,2837,2847		CKSRYB105K6R3	MISCELLANEOUS			
C	2818,2828,2838,2848		ACG1125	3202	HEAT SINK B		ANH1645
				3203	THERMAL SHEET B		AEB1417
				PDP-LX5090H			
5	6	7	8	153			

Mark No. Description
Block Name: MAIN I/F BLOCK

SEMICONDUCTORS

Q 3201

RN1901

MISCELLANEOUS

△ L 3201 CHIP BEEDS FILTER
CN 3201 50P CONNECTOR
CN 3202 40P CONNECTOR
CN 3203 6PIN CONNECTOR

BTX1042
AKM1399
AKM1398
AKM1405

RESISTORS

R 3201-3207,3211-3218
Other Resistors

RAB4CQ100J
RS1/16SS###J

CAPACITORS

C 3201
C 3202
C 3203

ACG1150
CKSSYB102K50
CCSSCH101J50

Block Name: SQ ASIC BLOCK

SEMICONDUCTORS

IC 3301
IC 3303
IC 3304

PEG383B
TC7SH08FUS1
TC7SH32FUS1

MISCELLANEOUS

△ L 3301,3302 CHIP BEEDS FILTER
△ L 3303 CHIP BEEDS FILTER
△ L 3304-3307 CHIP BEEDS FILTER
△ X 3301 CRYSTAL (27 MHz)
CN 3301 CONNECTOR

BTX1042
BTX1039
BTX1042
ASS1215
CKS4835

RESISTORS

R 3302,3307-3310
R 3306,3386
R 3313
R 3314-3319
R 3321-3325

RAB4CQ101J
RAB4CQ103J
RS1/16SS1000F
RAB4CQ100J
RAB4CQ470J

R 3332-3338,3344-3346
R 3351-3359,3361-3367
R 3371-3377
Other Resistors

RAB4CQ220J
RAB4CQ220J
RAB4CQ220J
RS1/16SS###J

CAPACITORS

C 3301-3306,3309,3310
C 3307,3311,3331-3334
C 3312-3330,3335,3336
C 3337
C 3338,3340

CKSSYB104K10
ACG1150
CKSSYB104K10
CCSRCH471J50
ACG1149

C 3339,3341,3342
C 3343
C 3345-3355,3357-3386
C 3356,3392
C 3387-3389

CKSSYB104K10
ACG1150
CKSSYB104K10
CCSRCH470J50
CKSRYB105K6R3

C 3390,3391,3393-3395

CKSSYB104K10

Block Name: LVDS TX BLOCK 50

SEMICONDUCTORS

IC 3401

PEG478A

MISCELLANEOUS

△ L 3401-3407 CHIP BEEDS FILTER

BTX1042

Mark No. Description

RESISTORS

R 3401
R 3497
Other Resistors

RS1/16SS5601F
RS1/10SR221J
RS1/16SS###J

CAPACITORS

C 3401,3402
C 3403-3410,3415-3420
C 3411,3413,3421,3435
C 3423-3434,3436-3442
C 3443,3499

ACG1149
CKSSYB104K10
ACG1150
CKSSYB104K10
ACG1150

C 3444-3448,3451-3457

CKSSYB104K10

Block Name: ADDRESS CN BLOCK

SEMICONDUCTORS

Q 3501,3504
Q 3502,3503,3506,3508
D 3501-3504

DTC143EUA
RN1901
DAN202U

MISCELLANEOUS

CN 3501-3508,3510 26P CONNECTOR
CN 3509 50P CONNECTOR

AKM1397
AKM1399

RESISTORS

R 3502,3504,3507
R 3503,3505
Other Resistors

RAB4CQ101J
RAB4CQ102J
RS1/16SS###J

CAPACITORS

C 3501-3508,3510-3512
C 3514,3516,3518-3520

CKSSYB102K50
CKSSYB102K50

Block Name: MODEULE UCOM BLOCK

SEMICONDUCTORS

IC 3602
IC 3604
IC 3605
IC 3607
IC 3608

BR24L04FJ-W
TC74VHC08FTS1
MB88347LPFV-GBND
TC74VHC123AFTS1
TC74VHC126FTS1

IC 3609,3610
IC 3611
Q 3602
Q 3604
D 3601-3604

TC74LCX541FTS1
PST3628UR
2SJ461A
RN1902
DAN202U

D 3606-3608,3612
D 3609,3611
D 3610

1SS352
SML-310MT
SML-D12V8W

MISCELLANEOUS

△ X 3601 CERAMIC OSCILLATOR
CN 3601 5PIN CONNECTOR
CN 3602,3603 CONNECTOR

CSS1616
AKM1418
CKS4828

RESISTORS

R 3603,3608
R 3604,3607
R 3606,3615
R 3639,3666
Other Resistors

RAB4CQ222J
RAB4CQ101J
RAB4CQ470J
RAB4CQ103J
RS1/16SS###J

CAPACITORS

C 3601,3603-3606
C 3602,3615,3635,3636
C 3608-3612,3614,3618
C 3619

CKSSYB104K10
CCSSCH101J50
CKSSYB104K10
CKSRYB103K50

Mark No. Description

C 3620-3622

C 3630
C 3631
C 3632-3634

Part No.

CKSRYB105K6R3

CKSSYB104K10
CKSRYB472K50
CKSSYB102K50

Mark No. Description

C 3863,3867,3883,3887
C 3864

C 3865
C 3868
C 3884
C 3885

Part No.

ACG1149
CCSRCH470J50

CKSRYB152K50
CKSRYB103K50
CCSRCH620J50
CKSRYB182K50

Block Name: DD CON BLOCK

SEMICONDUCTORS

IC 3801 BD8606FV
IC 3802 TC74VHC08FTS1
IC 3803 S-1170B18UC-OTD
IC 3804 BD12KA5WFP
IC 3805 PST3628UR

IC 3808 PQ200WNA1ZPH
Q 3801,3803 DTC144EUA
Q 3802 RN1901
Q 3804 DTC143EUA
Q 3841,3861,3881 SP8M4

D 3801,3802,3882 1SS352
D 3841,3861,3881 RB060M-30

MISCELLANEOUS

△ L 3801 CHIP BEEDS FILTER
△ L 3841,3881 INDUCTOR (4.7 uH)
△ L 3861 INDUCTOR (5 uH)
CN 3801 10PIN CONNECTOR
CN 3802 CONNECTOR

FU 3801 CHIP FUSE

BTX1039
ATH1235
BTH1110
AKM1409
AKM1277

AEK1087

RESISTORS

R 3801,3802 RAB4CQ101J
R 3815 RS1/10SR4301D
R 3816 RS1/10SR1301D
R 3828 RS1/10SR2702D
R 3832 RS1/10SR221J

R 3836 RS1/16SS2202F
R 3837,3838 RS1/16SS3901F
R 3841,3843,3863 RS1/10SR3302D
R 3844 RS1/10SR4702D
R 3845 RS1/10SR2002D

R 3861 RS1/10SR1503D
R 3862,3882 RS1/10SR3001D
R 3864,3883 RS1/10SR3902D
R 3865 RS1/10SR1003D
R 3881 RS1/10SR1203D

R 3885 RS1/10SR7502D
Other Resistors RS1/16SS###J

CAPACITORS

C 3801-3804,3808,3821 CKSSYB102K50
C 3805,3806 CKSSYB104K10
C 3807 CKSRYB472K50
C 3809 CKSRYB104K16
C 3810,3811,3841,3842 ACG1150

C 3812,3814,3824 CKSRYB105K6R3
C 3813,3815,3843,3847 ACG1149
C 3817,3825,3826 DCH1165
C 3818 CCSSCH101J50
C 3820,3844 CCSRCH221J50

C 3845,3888 CKSRYB682K50
C 3848 CKSRYB153K50
C 3861,3862,3881,3882 ACG1150

Unit Name: 50F X DRIVE ASSY

Block Name: 50X LOGIC BLOCK

SEMICONDUCTORS

IC 1001 TC74ACT541FT
IC 1002 TC74ACT540FT
D 1002,1005-1008 1SS352
D 1003,1051,1055 MC2848-11

MISCELLANEOUS

K 1008-1010 TEST PIN AKX1061
VR 1002 SEMI FIXED RESISTOR CCP1517
CN 1001 26P CONNECTOR AKM1397

RESISTORS

R 1001,1003 RAB4C470J
R 1002,1004,1007,1025 RAB4C472J
R 1012 RS1/8SQ0R0J
Other Resistors RS1/10SR###J

CAPACITORS

C 1001 CCSRCH331J50
C 1003,1004 CKSRYB104K25
C 1005 ACH1479
C 1006 CCSRCH680J50

Block Name: 50X RESONANCE BLCOK

SEMICONDUCTORS

IC 1101 PS9818-1(P)
IC 1104,1105 TND307TD
IC 1106 PS2701A-1(LP)
Q 1101 2SC2412K
Q 1102,1103 2SC4081

Q 1104,1105 QSZ2
Q 1108,1112,1116,1119 GT30F122
D 1101 UDZS5R6(B)
D 1102 UDZS8R2(B)
D 1106,1110,1123,1127 RF2001T3S

D 1113,1116,1128,1129 RF101L4S
D 1114 RF081M2S

MISCELLANEOUS

L 1101 INDUCTOR (85 nH) ATH1248
L 1103 INDUCTOR (300 nH) ATH1251
L 1105,1106 CHIP COIL (1 uH) BTH1118
1101 SCREW PMH30P080FTC

RESISTORS

R 1103,1109,1144,1150 RS1/8SQ4R7J
R 1104,1110,1145,1151 RS1/8SQ103J
R 1116,1118,1154 ACN1116
R 1136 RS1/10SR4702F
R 1137 RS1/10SR1502F

R 1138,1152,1153 RS1/8SQ0R0J
Other Resistors RS1/10SR###J

CAPACITORS

C 1101 ACH1478

Mark No. Description

C 1102-1105
C 1106,1113,1114,1116
C 1107,1110
C 1112

Part No.

ACE1178
CKSRYB104K25
CKSQYB474K25
ACG1126

C 1115
C 1117
C 1118

ACH1406
CKSRYB104K50
CCG1186

Block Name: 50X SUS BLCOK**SEMICONDUCTORS**

IC 1204
IC 1206
IC 1207,1209
Q 1201
Q 1202
Q 1203
Q 1204,1205,1207,1208
Q 1209
Q 1212
Q 1218,1219,1221-1223

PS9818-2(P)
PQ050DNA1ZPH
TND307TD
R3007AND
DTC123TKA
2SD1664
QSZ2
DTC143EK
2SK3498
RJH3044DPP

Q 1225,1227
Q 1226
D 1201
D 1202
D 1207

QSZ2
RJH3044DPP
UDZS8R2(B)
UDZS5R6(B)
RF101L4S

D 1208,1216-1218
D 1209

1SS352
RF081M2S

MISCELLANEOUS

L 1201,1202 CHIP INDUCTOR (10 uH)
L 1205,1206 INDUCTOR (1.0 uH)
K 1201-1205 TEST PIN
KN 1201-1204,1206 GROUND PLATE
KN 1207,1211-1213 GROUND PLATE

BTH1134
ATH1186
AKX1061
ANK1949
ANK1949

KN 1215,1216 GROUND PLATE
CN 1201 CONNECTOR
CN 1205,1206 PLUG(5P)
1201 SCREW

ANK1949
B11B-EH
KM200NA5
PMH30P080FTC

RESISTORS

R 1203,1204,1210,1211
R 1205
R 1212,1290
R 1213,1247,1259,1260
R 1216

RS1/8SQ4R7J
RST1/2SP1R8J
RS1/8SQ0R0J
RS1/8SQ4R7J
ACN1127

R 1217
R 1277
Other Resistors

RST1/2SP2R2J
ACN1120
RS1/10SR###J

CAPACITORS

C 1201,1202,1271
C 1204
C 1206,1207,1228,1229
C 1210
C 1212,1213,1216,1218

ACH1478
ACH1479
CKSRYB104K25
ACH1480
CKSQYB474K25

⚠ C 1214,1215,1221
C 1219,1230,1274
⚠ C 1222,1225,1227
C 1232
C 1234,1246

ACG1139
CKSQYB474K25
CCG1186
CCSRCH221J50
CKSRYB104K25

C 1240,1241,1243
C 1244,1245
C 1258,1259,1261

ACH1424
ACH1477
ACE1178

Mark No. Description

C 1278-1280
C 1281

Part No.

CKSRYB102K50
CKSRYB103K50

Block Name: 50X OFFSET BLCOK**SEMICONDUCTORS**

IC 1301
IC 1307,1308
Q 1301-1304
D 1304,1306
D 1308,1309

PS9818-2(P)
TND307TD
R3007AND
RF101L4S
1SS302

D 1310,1311

UDZS16(B)

RESISTORS

R 1304,1308
R 1312
R 1313,1353
R 1317,1319
R 1320,1322

RS1/8SQ4R7J
ACN1108
ACN1117
RS1/8SQ101J
RS1/8SQ100J

Other Resistors

RS1/10SR###J

CAPACITORS

C 1301
C 1302,1303
C 1306
C 1310,1312

ACH1478
ACH1483
CKSQYB474K25
CKSRYB104K25

Block Name: 50X D-D BLCOK**SEMICONDUCTORS**

IC 1401,1402
IC 1403,1404
Q 1402
Q 1403,1405
Q 1404,1406

MM1431AN
BA2904FVM
2SD1898
2SD27240
2SD2568

Q 1407
Q 1408,1409
D 1401
D 1402,1407,1416,1423
D 1404,1405,1424,1425

HN1C01FU
2SC4081
1SS301
RF081M2S
1SS352

D 1406
D 1408
D 1409
D 1410

CRF03
UDZS5R6(B)
UDZS5R1(B)
MC2848-11

MISCELLANEOUS

VR 1401,1402 SEMI-FIXED VR (10 K)
T 1401 TRANSFORMER

DCP1089
ATK1166

RESISTORS

R 1402,1453
R 1403,1408,1469-1472
R 1407
R 1418,1468
R 1424,1425,1427,1428

RST1/2SP224J
RST1/2SP473J
RS1/4SA224J
RS1/8SQ0R0J
RS1/8SQ1003F

R 1431
R 1436,1446
R 1437,1447
R 1438,1448
R 1439

RS1/10SR2401F
RS1/10SR6801F
RS1/10SR1002F
RS1/10SR2202F
RS1/10SR6201F

R 1441
R 1449
R 1455,1456
Other Resistors

RS1/10SR1502F
RS1/10SR5601F
RST1/2SP100J
RS1/10SR###J

Mark	No.	Description	Part No.
CAPACITORS			
C	1401,1409		ACH1428
C	1402		ACH1480
C	1403,1422		CKSRYB103K50
C	1405		CKSQYB225K10
C	1406		ACH1464
C	1408		ACH1473
C	1410-1415,1421		CKSRYB104K25
C	1416		CKSRYB105K6R3

Unit Name: 50F Y DRIVE ASSY
Block Name: 50Y LOGIC BLOCK

SEMICONDUCTORS			
IC	2001,2002		TC74ACT541FT
IC	2004,2005		TC74ACT540FT
D	2002,2004,2006		1SS352
D	2003,2011-2015		1SS301
D	2016-2018		1SS352

MISCELLANEOUS			
K	2011,2017 TEST PIN		AKX1061
VR	2001,2002 SEMI FIXED RESISTOR		CCP1517
CN	2001 50P CONNECTOR		AKM1399

RESISTORS			
R	2001,2002		RAB4C220J
R	2003,2004,2007,2009		RAB4C470J
R	2005,2006,2008,2010		RAB4C472J
R	2011,2012		RAB4C470J
R	2013,2014		RAB4C472J
R	2015,2016		RAB4C101J
Other Resistors			RS1/10SR###J

CAPACITORS			
C	2001		ACH1479
C	2003		CCSRCH680J50
C	2004-2006,2009		CKSRYB104K25
C	2007,2008		CCSRCH331J50

Block Name: 50Y RESONANCE BLCOK

SEMICONDUCTORS			
IC	2101		PS9818-1(P)
IC	2102		PS2701A-1(LP)
IC	2103,2104		TND307TD
Q	2101		2SC2412K
Q	2102,2103		2SC4081

Q	2104,2105		QSZ2
Q	2106-2109		RJP6065DPN
Q	2111,2113		RG4030CLX
D	2101		UDZS5R6(B)
D	2102		UDZS8R2(B)
D	2104,2105		RF2001T4S
D	2106,2107		RF2001T6S
D	2112,2113		RF2L6S
D	2115,2116		RF101L4S
D	2117		RF081M2S

MISCELLANEOUS			
L	2101 INDUCTOR (85 nH)		ATH1248
L	2103 INDUCTOR (300 nH)		ATH1251
L	2105,2106 CHIP COIL (1 uH)		BTH1118
	2104 SCREW		PMH30P080FTC

RESISTORS			
R	2101,2103,2105,2106		RS1/8SQ2R2J

Mark	No.	Description	Part No.
R	2102,2104,2110,2114		RS1/8SQ103J
R	2112,2113		RS1/8SQ2R2J
R	2115,2116		ACN1118
R	2117		ACN1116
R	2119		RST1/2SP4R7J
R	2126,2133		RS1/8SQ0R0J
R	2130		RS1/10SR4702F
R	2135		RS1/10SR1502F
Other Resistors			RS1/10SR###J

CAPACITORS			
C	2103-2105,2119		CKSRYB104K25
C	2106,2108,2109		CKSQYB474K25
C	2107		ACG1139
C	2110		ACG1113
C	2112-2115		ACE1184
C	2118		ACH1406
C	2151		ACH1478
C	2161		CKSRYB102K50

Block Name: 50Y SUS BLCOK

SEMICONDUCTORS			
IC	2201		PS9818-1(P)
IC	2203,2204		TND307TD
Q	2201		DTC143EK
Q	2202		DTC123TKA
Q	2203		2SD1664

Q	2204-2206,2208-2210		QSZ2
Q	2217-2219,2221-2223		RJH3044DPP
D	2201		UDZS8R2(B)
D	2202		UDZS5R6(B)
D	2204-2206		RF081M2S
D	2213,2221-2223		RF101L4S

MISCELLANEOUS			
	2203 SCREW		PMH30P080FTC

RESISTORS			
R	2202,2204,2206		RS1/8SQ2R2J
R	2209-2211		RS1/8SQ4R7J
R	2213		RST1/2SP1R8J
R	2214,2254,2255		RS1/8SQ0R0J
R	2215		RST1/2SP4R7J

Other Resistors			RS1/10SR###J
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CAPACITORS			
C	2201,2202		ACH1478
⚠ C	2203,2207,2208		ACG1126
C	2204-2206,2210,2221		CKSQYB474K25
⚠ C	2212-2214		ACG1126
C	2216-2218,2240		CKSRYB104K25

C	2219		CCSRCH221J50
C	2222		CKSQYB474K25
C	2231-2233		CKSRYB102K50

Block Name: 50Y MSK BLCOK

SEMICONDUCTORS			
IC	2301		PS9818-2(P)
IC	2303		PQ050DNA1ZPH
IC	2304		TND307TD
Q	2301		2SD1664
Q	2302,2303		QSZ2

Mark No. Description

Q 2304,2306,2308,2309
Q 2312,2314
Q 2321-2326,2328-2331
Q 2333,2334
D 2301
D 2302
D 2304-2306

Part No.

RJK1535DPE
RJK1535DPE
R5016ANJ
R5016ANJ
UDZS5R6(B)
1SS352
RF081M2S

Mark No. Description

R 2403
R 2404
R 2406-2411
R 2412,2413

R 2414,2415
R 2417,2418
Other Resistors

Part No.

ACN1126
ACN1122
ACN1114
ACN1116

ACN1123
RS2MMF101J
RS1/10SR###J

MISCELLANEOUS

L 2301,2302 CHIP INDUCTOR (10 uH)
L 2304,2305 INDUCTOR (1.0 uH)
K 2301-2305 TEST PIN
KN 2301-2308 GROUND PLATE
KN 2310-2317 GROUND PLATE

BTH1134
ATH1186
AKX1061
ANK1949
ANK1949

CAPACITORS

C 2401-2403,2405,2406
C 2407,2408
C 2410
C 2412-2418
C 2420,2421,2424-2429
C 2433,2435-2441
C 2449-2452

ACH1427
ACH1426
ACH1427
ACH1478
CKSRYB104K25
CKSRYB104K25
CKSRYB104K25

RESISTORS

R 2302
R 2303,2305,2307,2308
R 2311,2313,2320-2325
R 2327-2330,2332,2333
R 2335

RS1/8SQ2R2J
RS1/8SQ100J
RS1/8SQ100J
RS1/8SQ100J
RST1/2SP1R0J

Block Name: 50Y SCAN BLCOK**SEMICONDUCTORS**

IC 2501,2502
IC 2503,2504
IC 2517-2520

PS9852-2(P)
PS9818-2(P)
TC74AC540FT

MISCELLANEOUS

L 2501 CHIP INDUCTOR (10 uH)
L 2502 CHIP INDUCTOR (47 uH)
CN 2501,2502 15P CONNECTOR

BTH1134
BTH1136
AKM1200

RESISTORS

All Resistors

RS1/10SR###J

CAPACITORS

C 2502
C 2503
C 2507,2508
C 2509,2515-2517,2520
C 2521,2526,2527

ACH1482
ACH1480
ACG1132
CKSRYB104K25
CKSRYB104K25

CAPACITORS

C 2301-2303
C 2305,2306
C 2307,2312
C 2308
C 2309

ACH1424
ACH1477
ACH1478
ACH1480
ACH1479

C 2314,2315
C 2316,2318
C 2319,2321,2323,2325
C 2326
C 2328

CKSQYB474K25
CCG1186
CKSRYB104K25
CKSRYB104K25
CKSYB105K16

C 2329-2331

ACE1149

Block Name: 50Y OFFSET BLCOK**SEMICONDUCTORS**

IC 2401
IC 2403,2404
IC 2407-2413
Q 2401,2402
Q 2403

PS9818-1(P)
PS9818-2(P)
TND307TD
2SK3458-ZK
2SC2412K

Q 2404,2405
Q 2410,2411,2414-2417
Q 2418
Q 2419
Q 2423,2435

2SD1664
QSZ2
2SK3301
2SK3113B-ZK
R4008AND

Q 2424,2425,2427-2429
Q 2430,2432
Q 2431
Q 2433,2434
D 2401

R5009ANJ
2SK3677-01MR
R5009ANJ
QSZ2
CRF03

D 2402-2406
D 2407,2409,2411
D 2408,2410,2412-2414
D 2415,2416,2418
D 2417

1SS302
UDZS5R6(B)
UDZS16(B)
EC8FS6
RF501B6S

Block Name: 50Y MAIN D-D BLOCK 1**SEMICONDUCTORS**

IC 2601
IC 2602,2603
IC 2604,2651
IC 2606
Q 2601,2651,2652

MR1712-7101
MM1431AN
PS2701A-1(LP)
BA2904FVM
2SC4081

Q 2604
Q 2605
Q 2606
Q 2662
Q 2663

2SC3425
2SD2568
UMH1N
2SD1898
HN1C01FU

D 2601,2612,2664
D 2602-2604,2606,2616
D 2605,2607,2609,2611
D 2608,2610
D 2613

1SS352
CRF03
RF081M2S
CRF02
RF101L4S

D 2614
D 2651,2652
D 2661
D 2662
D 2665,2666

UDZS8R2(B)
UDZS33(B)
UDZS5R6(B)
1SS301
RF081M2S

RESISTORS

R 2401

ACN1127

D 2670

UDZS18(B)

5	6	7	8	
Mark No. Description	Part No.	Mark No. Description	Part No.	
MISCELLANEOUS		MISCELLANEOUS		
VR 2602 SEMI FIXED RESISTOR	CCP1518	L 2701 CHIP COIL (100 uH)	BTH1124	
VR 2603 SEMI FIXED RESISTOR	CCP1517	VR 2702-2705 SEMI FIXED RESISTOR	CCP1517	A
T 2601 TRANSFORMER	ATK1168	T 2761 CONVERTER TRANS.	ATK1156	
T 2661 SWITCHING TRANS.	ATK1162			
RESISTORS		RESISTORS		
R 2601	RST1/2SP224J	R 2701-2704,2706-2708	RS1/4SA224J	
R 2602-2608,2626	RS1/4SA224J	R 2711,2712	RS1/4SA224J	
R 2609	RS1MMF683J	R 2713	ACN1119	
R 2610	RST1/2SP100J	R 2714,2715,2717	RST1/2SP100J	
R 2611	RS1/8SQ100J	R 2718	RS1/10SR1202F	
R 2621	RS1/10SR4702F	R 2719	RS1/10SR4702F	
R 2623	RS1/10SR4701F	R 2722,2731	RS1/10SR1501F	
R 2624	RS1/10SR1003F	R 2724-2726,2745,2756	RS1/10SR4701F	
R 2634,2643	RS1/8SQ0R0J	R 2754,2755,2757	RS1/10SR1502F	B
R 2641	RS1/10SR1502F	R 2760	RS1/8SQ0R0J	
R 2651	RS1/8SQ2202F	R 2771,2775	RS1/10SR4701F	
R 2652,2653	RS1/8SQ3302F	R 2778	ACN1132	
Other Resistors	RS1/10SR###J	Other Resistors	RS1/10SR###J	
CAPACITORS		CAPACITORS		
C 2601	CEHAT470M2A	C 2701,2761,2762	ACH1480	
C 2602,2661,2662	ACH1480	C 2702-2704,2706-2708	CKSRYB104K25	
C 2603	ACH1464	C 2705	ACH1406	
C 2605	ACG1126	C 2709	ACH1472	
C 2606	ACH1427	C 2710,2711	ACH1469	
				C
C 2607,2608	ACG1113	C 2712	ACG1142	
C 2609,2610	CKSRYB104K25	C 2713,2764,2776	CKSRYB103K50	
C 2611,2620	CKSRYB104K50	C 2714	ACG1145	
C 2612	ACH1482	C 2716,2777	CKSRYB104K25	
C 2613,2615	CCSRCH102J50	C 2763	ACH1481	
C 2614	CCSRCH101J50	C 2768	CKSQYB225K10	
C 2616,2619	ACH1425	C 2770,2771	CKSRYB105K6R3	
C 2618	ACH1360	C 2774	CKSRYB104K50	
C 2650,2653,2655	CKSRYB104K16	C 2775	BCG1069	
C 2654	CCSRCH471J50			
C 2663	CKSRYB103K50			
C 2664	CKSRYB105K6R3			
C 2666	CKSQYB225K10			
C 2667	CKSYB105K25			
C 2668	ACG1105			
Block Name: 50Y MAIN D-D BLCOK 2		Unit Name: IO AUDIO ASSY(EU SD)		
		Block Name: BOARD IF BLOCK(EU)		D
SEMICONDUCTORS		SEMICONDUCTORS		
IC 2701-2703	MM1431AN	D 7605,7606	UDZS8R2(B)	
IC 2704-2706	BA2904FVM	D 7611	UDZS5R1(B)	
IC 2761	PS2701A-1(LP)			
Q 2701	2SA1163			
Q 2702-2704	2SA1727			
Q 2705-2707	2SA1924			
Q 2708	2SC2412K			
Q 2709	2SA2005			
Q 2710,2764	2SD1898			
Q 2711	2SC2713			
Q 2761	2SA1576A			
Q 2762	UMH1N			
Q 2766	HN1C01FU			
D 2701,2702,2764	1SS301			
D 2703,2704,2766	1SS352			
D 2705	UDZS8R2(B)			
D 2767-2769	RF081M2S			
		MISCELLANEOUS		
		CN 7501 CONNECTOR 7P	AKM1377	
		CN 7502 CONNECTOR	B5P-VH	
		CN 7503 50P CONNECTOR	AKM1399	
		CN 7504 40P CONNECTOR	AKM1398	
		CN 7505 11PIN CONNECTOR	AKM1371	
				E
		CN 7506 FFC CONNECTOR 12P	AKM1385	
		RESISTORS		
		R 7601,7602,7609	RS1/10SR0R0J	
		R 7611,7631-7633	RS1/10SR75R0F	
		R 7634	RS1/10SR1500F	
		Other Resistors	RS1/16SS###J	
		CAPACITORS		
		C 7605,7606,7611	CKSRYB105K10	
		C 7609	CKSSYB104K10	
		Block Name: IO 0 BLOCK(EU)		F
		SEMICONDUCTORS		
		Q 7702-7704	UMD2N	

Mark No. Description**Part No.****Mark No. Description****Part No.**

Q 7705-7708
Q 7709
D 7701,7704,7705,7711
D 7702,7703,7707-7710

2SC4081
HN1C01FU
UDZS12(B)
UDZS5R1(B)

C 7833,7834
C 7871-7873
C 7891

CKSSYB102K50
CKSSYB471K50
CKSSYB103K16

Block Name: POWER SUB BLOCK(EU)**SEMICONDUCTORS**

IC 7901
IC 7911
IC 7951
IC 7961
D 7901,7911,7951,7961

NJM2846DL3-05
PQ200WNA1ZPH
NJM2846DL3-18
NJM78M12DL1A
1SS352

RESISTORS

R 7914
R 7915
Other Resistors

RS1/16SS4701F
RS1/16SS1501F
RS1/16SS###J

CAPACITORS

C 7901,7951
C 7902,7952
C 7911,7914
C 7961,7963
C 7962

CKSRYB105K10
DCH1201
DCH1165
CEHVAW330M25
CKSRYB104K25

C 7964

CKSSYB682K25

Block Name: AV SW BLOCK(EU)**SEMICONDUCTORS**

IC 8001
Q 8001-8006

R2S11006FT
2SA1576A

MISCELLANEOUS

L 8001-8003 CHIP BEEDS FILTER

BTX1042

RESISTORS

R 8002
R 8019,8024,8052,8057
R 8064,8069
Other Resistors

RS1/8SQ0R0J
RS1/10SR510J
RS1/10SR510J
RS1/16SS###J

CAPACITORS

C 8002-8005,8007-8012
C 8006,8025,8029
C 8014,8019,8020,8022
C 8015-8017,8021,8023
C 8024,8026,8028,8030

CKSRYB105K10
CKSSYF104Z16
DCH1201
CKSSYB104K10
DCH1201

C 8031

DCH1201

Block Name: RGB SW BLOCK(EU)**SEMICONDUCTORS**

IC 8101
Q 8101
Q 8102,8103
Q 8104

R2S11001FT
2SA1576A
HN1B04FU
HN1C01FU

MISCELLANEOUS

L 8101 CHIP BEEDS FILTER

BTX1042

RESISTORS

R 8136-8138
R 8149-8151
R 8159
R 8160
Other Resistors

RS1/16SS8201F
RS1/16SS6801F
RAB4CQ101J
RAB4CQ0R0J
RS1/16SS###J

MISCELLANEOUS

JA 7701-7703 RGB CONNECTOR

AKP1331

RESISTORS

R 7701-7703,7705
R 7704,7706,7710
R 7707-7709
R 7719,7733-7736,7746
R 7748,7760,7762,7763

RS1/10SR151J
RS1/10SR121J
RS1/10SR151J
RS1/10SR75R0F
RS1/10SR75R0F

Other Resistors

RS1/16SS###J

CAPACITORS

C 7701-7706
C 7707-7709,7712-7716
C 7717,7722
C 7718-7721,7723,7724
C 7725-7727,7729-7736

CCG1205
CKSSYB102K50
CCSSCH680J50
CKSSYB102K50
CKSRYB105K10

C 7728,7739,7740
C 7737,7742
C 7738,7741,7743,7744
C 7745-7747

CCSRCH101J50
CKSSYB103K16
CKSRYB105K10
ACH1454

Block Name: IO 1 BLOCK(EU)**SEMICONDUCTORS**

IC 7851
Q 7816,7821,7822
Q 7817,7823
Q 7891
D 7851

MAX3232CPW
2SD2114K
UMD2N
HN1B04FU
1SS301

TH 7891

TH05-3H103F

MISCELLANEOUS

L 7882 CHIP COIL (10 uH)
△ F 7811-7813,7871-7874 INDUCTOR
JA 7802 JACK
JA 7803 2P VERTICAL PIN JACK
JA 7804 3P PINJACK VERTICAL

BTH1103
CTF1557
VKN1449
AKB1331
AKB1354

JA 7805 3P VERTICAL PINJACK
JA 7851 9P D-SUB SOCKET
JA 7871 4POLE MINI JACK
JA 7881 VERT OPT.LINK OUT

AKB1332
AKP1329
AKN1081
AKN1082

RESISTORS

R 7801-7803
R 7827,7828
R 7860
R 7891
Other Resistors

RS1/10SR75R0F
RS1/10SR221J
RAB4CQ101J
RS1/10SR4701F
RS1/16SS###J

CAPACITORS

C 7801-7803,7811,7812
C 7805,7851-7855,7892
C 7813,7814
C 7818,7823,7824
C 7821,7822

CKSRYB105K10
CKSSYB104K10
CKSRYB102K50
CKSSYB471K50
CCG1205

C 7831,7832,7881

CKSRYB105K10

Mark No. Description

CAPACITORS

C 8101,8104
C 8102,8103
C 8108-8110,8140-8142
C 8111-8124
C 8125-8127

C 8128,8134
C 8129,8132
C 8130,8131,8133
C 8135-8139

Part No.

CKSRYB474K10
CCSSCH680J50
CKSRYB105K10
CKSSYB103K16
CCSSCH221J50

DCH1201
CCG1205
CKSSYB104K10
CKSSYB104K10

Block Name: MSP BLOCK(EU)

SEMICONDUCTORS

IC 8201
IC 8311,8331,8351
IC 8371
Q 8266
Q 8301

Q 8371

MSP5651M-QK-C3
NJM4565V
BH3544F
DTC124EUA
HN1A01FU

2SC4081

MISCELLANEOUS

△ X 8201 CRYSTAL (20.25 MHz)

ASS1217

RESISTORS

R 8218
R 8391-8393
Other Resistors

RAB4CQ471J
RS1/8SQ0R0J
RS1/16SS###J

CAPACITORS

C 8215,8216,8241
C 8217,8261,8264,8265
C 8235-8238
C 8242,8245,8247,8252
C 8243,8246,8248,8255

CKSSYB473K16
CCSSCH560J50
CCG1205
CKSSYB103K16
DCH1201

C 8251,8253,8311,8312
C 8254,8256,8259,8263
C 8257,8258
C 8260,8262,8271,8275
C 8270,8272,8273,8276

DCH1165
CKSSYB103K16
CCSSCH120J50
DCH1201
CKSSYB103K16

C 8277,8279,8286,8288
C 8278,8280,8285,8287
C 8301,8302,8313
C 8321,8322,8341,8342
C 8323,8324,8343,8344

DCH1201
CKSSYB103K16
CKSSYB102K50
DCH1201
CCSSCH150J50

C 8331,8332
C 8333
C 8351,8352,8355,8356
C 8360,8362,8378
C 8361,8363,8377

DCH1165
CKSSYB682K25
CKSSYB472K16
DCH1201
CKSSYB104K10

C 8371,8372,8380
C 8379

CKSRYB105K10
ACH1465

Block Name: D-AMP BLOCK

SEMICONDUCTORS

IC 8401
Q 8485,8486
Q 8488
D 8401
D 8551-8554

TAS5122DCA
2SA1576A
DTC124EUA
UDZS3R6(B)
UDZS30(B)

MISCELLANEOUS

L 8451,8452 INDUCTOR (10 uH)

ATH1252

Mark No. Description

△ F 8551,8552 COMMON MODE FILTER
JA 8551 SPEAKER TERMINAL 4P

Part No.

ATF1224
AKE1065

RESISTORS

R 8401-8404,8409-8412
R 8405-8408
R 8421-8424,8445
R 8433
R 8434,8481-8487

ACN1269
ACN1276
RS1/16SS0R0J
RS1/16SS101J
RS1/16SS103J

R 8436
R 8437
Other Resistors

RS1/16SS183J
RS1/16SS472J
RS1/10SR###J

CAPACITORS

C 8401-8408
C 8409-8416
C 8417-8424
C 8431,8432
C 8433,8434,8443-8446

CKSRYB224K16
CKSRYB681K50
CKSRYB683K16
BCG1060
CKSRYB104K25

C 8441,8442
C 8451-8454
C 8455,8456
C 8457-8464
C 8487

CEHAZL152M25-P35
CFLA104J50
CFLA474J50
CKSRYB223K50
ACH1338

C 8541,8542
C 8555-8558
C 8561-8564
C 8571-8578

CEHAT1R0M50
CKSRYB682K50
CKSRYF104Z50
CCSRCH221J50

Unit Name: SIDE IO ASSY(EU)

MISCELLANEOUS

JA 8601 PIN JACK(3P)
JA 8602 JACK
CN 8601 11PIN CONNECTOR
8603 SCREW TERMINAL

AKB1303
AKN1083
AKM1438
VNE1949

RESISTORS

R 8601,8602
R 8693
Other Resistors

RST1/2SP120J
RS1/10SR0R0J
RS1/16SS###J

CAPACITORS

C 8601,8602
C 8603,8604

ACH1454
CKSSYB102K50

Unit Name: SIDE KEY ASSY

MISCELLANEOUS

△ L 8701-8704 CHIP SOLID INDUCTOR
S 8701-8706 PUSH SWITCH
CN 8701 4PIN CONNECTOR

QTL1013
CSG1155
AKM1431

RESISTORS

All Resistors

RS1/16SS###J

CAPACITORS

C 8701

CKSSYB104K10

Unit Name: LED ASSY

SEMICONDUCTORS

D 8721
D 8722
D 8723

SMLE12BC7T(NP)
TLRV1022
SML-511DW(QR)

Mark No. Description**Part No.****Mark No. Description****Part No.****MISCELLANEOUS**

CN 8721 6PIN CONNECTOR

AKM1425

Unit Name: POWER SW ASSY**MISCELLANEOUS**

S 8776 PUSH SW

ASG1102

CN 8776 3PIN CONNECTOR

AKM1363

Unit Name: MAIN ASSY(EU HD)**MISCELLANEOUS**

4000 HEAT SINK-A

ANH1717

4000 THERMAL SHEET B

AEB1417

Block Name: BOARD IF 0 BLOCK(EH)**SEMICONDUCTORS**

Q 4001

2SA1576A

D 4001,4002

1SS352

D 4003-4008

1SS301

MISCELLANEOUS

CN 4001,4003 50P CONNECTOR

AKM1399

CN 4004 40P CONNECTOR

AKM1398

CN 4005 CONNECTOR 7P

AKP1320

RESISTORS

R 4006

RS1/10SR0R0J

R 4009-4011,4014,4015

RAB4CQ220J

R 4013,4016

RAB4CQ101J

R 4020-4023

RAB4CQ220J

Other Resistors

RS1/16SS###J

CAPACITORS

C 4003

ACH1421

C 4004-4008

CKSRYB104K16

Block Name: BOARD IF 0 BLOCK(EH)**SEMICONDUCTORS**

D 4101

1SS301

MISCELLANEOUS

△ L 4101,4102 CHIP BEEDS FILTER

BTX1042

F 4101-4104 FERRITE CORE

VTF1091

CN 4101,4102,4106 50P CONNECTOR

AKM1399

CN 4104 80P CONNECTOR RCPT

BKP1159

CN 4105 40P CONNECTOR

AKM1398

CN 4107 CONNECTOR

AKM1276

RESISTORS

R 4112,4113

RAB4CQ101J

Other Resistors

RS1/16SS###J

Block Name: BOARD IF 2 BLOCK(EH)**SEMICONDUCTORS**

Q 4201,4205-4207,4211

DTC124EUA

Q 4202

RN1902

Q 4215

HN1A01FU

Q 4216

RN2902

Q 4217

DTC124EUA

D 4202,4204

1SS352

MISCELLANEOUS

L 4202 CHIP BEEDS FILTER

BTX1039

△ F 4201-4212 INDUCTOR

CTF1557

CN 4202 PLUG(4P)

KM200NA4

Unit Name: IR ASSY**SEMICONDUCTORS**

Q 8751

2SA1576A

D 8751

DAN217U

MISCELLANEOUS

△ F 8751,8752 INDUCTOR

CTF1557

CN 8751 CONNECTOR

AKM1289

U 8751 REMOTE RECEIVER UNIT

GP1UE28QK0VF

RESISTORS

R 8753

RS1/10SR0R0J

R 8755

RS1/10SR470J

Other Resistors

RS1/16SS###J

CAPACITORS

C 8751

CEVW470M6R3

C 8752

CKSSYB104K10

C 8753

CKSSYB102K50

C 8754

CKSRYB103K50

C 8755

CCSRCH101J50

Unit Name: FAN CONNECT ASSY**SEMICONDUCTORS**

Q 8761,8762

DTC124EUA

D 8761,8762

1SS301

MISCELLANEOUS

CN 8761 PLUG(4P)

KM200NA4

CN 8762 PLUG(6P)

KM200NA6

CN 8763 PLUG(7P)

KM200NA7

RESISTORS

All Resistors

RS1/16SS###J

Unit Name: RLS ASSY**SEMICONDUCTORS**

IC 8736

MM3012XN

IC 8737

AMS124YD01

MISCELLANEOUS

△ F 8736-8738 INDUCTOR

CTF1557

CN 8736 3PIN CONNECTOR

AKM1422

RESISTORS

R 8737

RS1/16SS2203F

Other Resistors

RS1/16SS###J

CAPACITORS

C 8736

CKSRYB105K10

C 8737

CKSSYB103K16

C 8738

DCH1201

C 8739,8740

CKSSYB104K10

5		6		7		8	
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	CN 4204	PLUG(9P)	KM200NA9	IC	4404		NJM2846DL3-33
	CN 4207	PLUG(14P)	KM200NA14	Q	4401,4402		UMD2N
	CN 4208	PLUG(7P)	KM200NA7	Q	4404-4407		DTC124EUA
	CN 4209	PLUG(10P)	KM200NA10				
	CN 4210	PLUG(15P)	KM200NA15	Q	4408		2SC4081
				Q	4409,4410		DTA124EUA
				Q	4411		RSS100N03
				Q	4412,4415		RTQ045N03
				Q	4413		UPA1917TE
				Q	4416		RSS090P03
				Q	4417,4418		SP8M4
				D	4401,4402,4410,4411		1SS352
				D	4405-4407		RB060M-30
RESISTORS				MISCELLANEOUS			
R	4140-4145,4221		RS1/8SQ0R0J	L	4401-4406 CHIP BEEDS FILTER		BTX1039
R	4222-4224,4249		RS1/10SR0R0J	L	4409-4411 INDUCTOR (2.8 uH)		ATH1243
R	4251,4253		RS1/10SR102J	L	4413-4416 CHIP BEEDS FILTER		BTX1039
	Other Resistors		RS1/16SS###J				
CAPACITORS							
C	4207		CKSRYB102K50				
C	4211		CCSSCH221J50				
C	4214		DCH1201				
C	4216		CKSSYB104K10				
Block Name: POWER 0 BLOCK(EH)							
SEMICONDUCTORS				RESISTORS			
IC	4301		R5523N001B	R	4406,4438		RS1/16SS1203D
IC	4303		PQ200WNA1ZPH	R	4407,4425-4427,4441		RS1/16SS3302D
IC	4304		MB3842PFV-G-E1	R	4421		RS1/16SS5602D
IC	4305		NJM2846DL3-05	R	4429		RS1/16SS2702D
IC	4306		BD8903FV	R	4440		RS1/16SS1002D
				R	4442		RS1/16SS3902D
Q	4304,4305		DTA143EUA	R	4444,4445		RS1/16SS3302D
Q	4307		2SA1576A	R	4488		RS1/8SQ0R0J
Q	4308		UMD2N		Other Resistors		RS1/16SS###J
Q	4309,4310		DTC124EUA				
D	4301		RB521S-40				
D	4305,4316		1SS352				
D	4306		RB551V-30				
MISCELLANEOUS							
L	4302 CHIP BEEDS FILTER		BTX1039				
L	4303 INDUCTOR (47 uH)		BTH1111				
L	4306 CHIP COIL (470 uH)		BTH1126				
RESISTORS							
R	4301,4339		RS1/8SQ0R0J	C	4415,4417,4431,4432		CCSSCH101J50
R	4310		RS1/10SR0R0J	C	4418,4425,4426,4433		CKSSYB104K10
R	4325		RS1/16SS3901F	C	4420,4444		CKSSYB471K50
R	4326		RS1/16SS1003D	C	4422		DCH1201
R	4327		RS1/16SS2202F	C	4423,4427,4465		CKSRYB105K10
R	4353		RS1/16SS2201F	C	4434		CKSSYB104K10
R	4356		RS1/16SS5101F	C	4435		CCSSCH470J50
R	4357		RS1/16SS2701F	C	4436,4439		CKSSYB152K50
	Other Resistors		RS1/16SS###J	C	4437		CCSSCH101J50
				C	4438		CCSSCH330J50
CAPACITORS							
C	4305,4308		CKSRYB105K10	C	4440		CKSSYB682K25
C	4306,4331		BCG1064	C	4441		CKSSYB221K50
C	4310,4327,4345		DCH1201	C	4447,4448,4451,4452		BCG1059
C	4311		ACG1147	C	4454		CKSRYB334K10
C	4323		CEHVAW101M6R3	C	4462-4464,4466-4468		BCG1059
C	4326		ACH1421				
C	4332,4335,4347-4349		CKSSYB104K10				
C	4338		CKSSYB473K16				
C	4350,4351		DCH1165				
Block Name: POWER 1 BLOCK(EH)				Block Name: POWER 2 BLOCK(EH)			
SEMICONDUCTORS				SEMICONDUCTORS			
IC	4401,4406		MM1593DF	IC	4501		LTC3407EMSE-2
IC	4402		BD8606FV	IC	4503,4504		NJM2846DL3-18
				Q	4501,4507,4509		UPA1917TE
				Q	4502,4503		DTC124EUA
				Q	4504,4521		2SC4081
				Q	4506		RSS090P03
				Q	4510,4522-4524		RTQ045N03
				Q	4511-4513,4516		UMD2N
				D	4503,4509		1SS352
				D	4505		1SS357

Mark No. Description

D 4510,4511

Part No.

RB551V-30

Mark No. Description**Block Name: ADC BLOCK(EH)****Part No.****SEMICONDUCTORS**

IC 4801

AD9985KSTZ-110

MISCELLANEOUS

L 4801,4802 CHIP BEEDS FILTER

BTX1042

RESISTORS

R 4803

RS1/8SQ0R0J

R 4804

RS1/16SS2701F

R 4809-4814

RAB4CQ220J

R 4815

RAB4CQ103J

Other Resistors

RS1/16SS###J

CAPACITORS

C 4801

CKSSYB823K10

C 4802

CKSSYB822K16

C 4803-4805,4807,4809

CKSSYB104K10

C 4806,4808,4810

CKSSYB473K16

C 4811-4817

CKSSYB104K10

C 4818-4820

DCH1201

Block Name: HDMI BLOCK(EH)**SEMICONDUCTORS**

IC 4901

SII9125CTU

Q 4903

2SC4081

Q 4904-4907,4914

UMD2N

Q 4908

RN1902

Q 4910

2SA1576A

Q 4913

HN1C01FU

Q 4915

DTC124EUA

D 4901

RB520S-30

MISCELLANEOUS

L 4901-4905 CHIP SOLID INDUCTOR

QTL1013

F 4901,4902 CHIP FERRITE BEADS

ATF1211

⚠ X 4901 CRYSTAL (28.322 MHz)

ASS1226

RESISTORS

R 4901,4902

RS1/8SQ0R0J

R 4944

RAB4CQ100J

R 4945-4954

RAB4CQ220J

R 4973

RAB4CQ470J

R 4976-4979

ACN1275

Other Resistors

RS1/16SS###J

CAPACITORS

C 4901-4928,4932,4933

CKSSYB102K50

C 4929

CKSSYB103K16

C 4930,4931

CCSSCH8R0D50

C 4934,4937-4940

CKSSYB104K10

C 4936,4941,4946,4951

DCH1201

C 4942-4945,4947-4950

CKSSYB104K10

C 4952-4960

CKSSYB104K10

Block Name: HDMI SW BLOCK(EH)**SEMICONDUCTORS**

IC 5001

CXB1444R

IC 5002-5004

BR24L02FV-W

Q 5007-5009

UMD2N

Q 5011-5013

RN1902

D 5004-5006

UDZS6R8(B)

MISCELLANEOUS

L 4501 CHIP BEEDS FILTER

BTX1039

L 4502,4503 CHIP INDUCTOR (2.2 uH)

ATH1244

RESISTORS

R 4554

RS1/16SS1503D

R 4558

RS1/16SS1003D

R 4561

RS1/16SS2003D

R 4562

RS1/16SS6202D

Other Resistors

RS1/16SS###J

CAPACITORS

C 4501-4504,4508

CKSRYB104K16

C 4505,4506

CKSRYB105K10

C 4510,4513

BCG1059

C 4517

CKSSYB102K50

C 4518,4519

CCSSCH470J50

C 4521

CKSSYB103K16

C 4522,4523,4526-4528

CCSSCH101J50

C 4524

CKSRYB224K16

C 4525,4536-4539,4556

CKSSYB104K10

C 4529,4531,4548,4549

DCH1201

C 4533,4551,4555,4557

CCSSCH101J50

C 4559,4560

CKSSYB104K10

Block Name: VDEC BLOCK(EH)**SEMICONDUCTORS**

IC 4701

HY57V641620FTP-6

IC 4702

CM0048BF

Q 4701,4702

2SA1576A

MISCELLANEOUS

L 4701 CHIP BEEDS FILTER

BTX1042

L 4702,4703 COIL

LCYC6R8K2125

L 4706-4708 CHIP BEEDS FILTER

BTX1042

⚠ X 4701 CRYSTAL (28.63636 MHz)

ASS1214

RESISTORS

R 4702,4703

RS1/8SQ0R0J

R 4710,4720

RS1/16SS1500F

R 4711,4721

RS1/16SS2201F

R 4712,4722

RS1/16SS1101F

R 4713,4715,4723

RS1/16SS2701F

R 4714

RS1/16SS1001F

R 4726,4737-4745

RAB4CQ470J

R 4746-4752

RAB4CQ101J

Other Resistors

RS1/16SS###J

CAPACITORS

C 4701,4704-4711

CKSRYB105K10

C 4702,4703

CCSRCH300J50

C 4712,4718,4720

CKSSYB103K16

C 4713,4717

CCSSCH330J50

C 4714,4719

CCSSCH680J50

C 4715,4716

CKSSYB102K50

C 4721

CEHVAW101M6R3

C 4722-4736,4738-4774

CKSSYB104K10

C 4737,4793-4797

DCH1201

C 4787

CKSSYB104K10

C 4792

DCH1165

5	6	7	8
Mark No. Description	Part No.	Mark No. Description	Part No.
MISCELLANEOUS		C 5404,5417,5419,5420	CKSSYB104K10
F 5001 CHIP SOLID INDUCTOR	DTL1041	C 5408	CCSSCJ3R0C50
JA 5001-5003 HDMI CONNECTOR(VT)	AKP1335	C 5409	CCSSCH180J50
RESISTORS		C 5411,5412	CKSSYB103K16
R 5018,5029,5050	RS1/16SS49R9F	C 5415,5416	CCSSCH8R0D50
R 5058	RS1/16SS4701F	C 5418,5421,5427,5429	CKSSYB102K50
Other Resistors	RS1/16SS###J	C 5422,5424	CCG1205
CAPACITORS		C 5423,5425,5426,5428	CKSSYB104K10
C 5001	BCG1059	C 5430	CKSSYB104K10
C 5003-5007,5009-5013	CKSSYB104K10	Block Name: COMMON IF BLOCK(EH)	
C 5014	DCH1201	SEMICONDUCTORS	
C 5015,5016,5018,5019	CKSSYB104K10	IC 5601,5602,5605,5606	TC74LCX541FTS1
Block Name: DVB T TUNER BLOCK(EH)		IC 5604	TC74LCX245FTS1
SEMICONDUCTORS		IC 5608	TC74LCX541FTS1
IC 5301	TC7W66FU	RESISTORS	
Q 5303	DTC124EUA	R 5614,5615,5617,5618	RAB4CQ151J
Q 5304,5305	2SA1576A	R 5619,5625	RAB4CQ101J
Q 5306	HN1B04FU	R 5620,5624,5626	RAB4CQ470J
Q 5307	HN1C01FU	R 5622	RS1/10SR0R0J
Q 5308	RN1902	R 5627,5628,5632,5636	RAB4CQ103J
D 5301	1.5SMC6.8A	R 5629-5631	RAB4CQ470J
MISCELLANEOUS		R 5633	RS1/8SQ0R0J
L 5301,5303,5304 CHIP COIL	BTH1121	Other Resistors	RS1/16SS###J
L 5308 CHIP BEEDS FILTER	BTX1042	CAPACITORS	
F 5301-5304 FERRITE CORE	VTF1080	C 5601-5603,5605,5606	CKSSYB104K10
F 5305 FERRITE CORE	VTF1091	C 5608	CKSSYB104K10
△ U 5301 FE	AXF1191	Block Name: VBI SLICER BLOCK(EH)	
RESISTORS		SEMICONDUCTORS	
R 5304,5307,5309	RS1/8SQ0R0J	IC 5701	TC90173FG
R 5318,5360-5362	RS1/10SR0R0J	D 5701	HSM107S-E
R 5364-5369,5372	RS1/10SR0R0J	MISCELLANEOUS	
Other Resistors	RS1/16SS###J	L 5701,5702 CHIP BEEDS FILTER	BTX1042
CAPACITORS		RESISTORS	
C 5307,5311,5324,5330	DCH1201	R 5701	RS1/8SQ0R0J
C 5309	CKSSYB104K10	Other Resistors	RS1/16SS###J
C 5316	CKSSYB103K16	CAPACITORS	
C 5319	CEHVAW101M6R3	C 5701	CKSRYB474K10
C 5322	CKSRYB682K50	C 5704	CCSSCH680J50
C 5329	BCG1064	C 5705-5712,5715-5720	CKSSYB104K10
Block Name: COFDM BLOCK(EH)		C 5714	DCH1201
SEMICONDUCTORS		Block Name: 7404 0 BLOCK(EH)	
IC 5401	DRX3975D-QI-B1	SEMICONDUCTORS	
Q 5402	UMD2N	IC 6001	BCM7404XKPB11G
MISCELLANEOUS		MISCELLANEOUS	
L 5401-5403 CHIP BEEDS FILTER	BTX1042	F 6001 FERRITE CORE	VTF1084
L 5404 CHIP COIL	LCYAR82J2520	JA 6001 RJ45 CONNECTOR TRANS	AKP1332
F 5402-5404 FERRITE CORE	VTF1091	RESISTORS	
△ X 5401 CRYSTAL RESONATOR (20 MHz)	VSS1221	R 6002-6004,6018	RS1/10SR750J
RESISTORS		R 6007-6009,6016,6045	RAB4CQ470J
R 5401	RS1/8SQ0R0J	R 6014	RS1/16SS1101F
R 5434-5436	RAB4CQ470J	R 6019	RS1/16SS1001F
R 5438	RAB4CQ471J	R 6021,6022,6039,6040	RS1/16SS49R9F
Other Resistors	RS1/16SS###J	R 6037	RS1/16SS1002F
CAPACITORS		R 6051,6071	RAB4CQ472J
C 5401,5402	CCSSCH101J50	R 6066-6069,6072	RAB4CQ470J
C 5403	CKSRYB104K16		

Mark No. Description

R 6070
R 6073

Part No.

RAB4CQ221J
RS1/10SR75R0F

Mark No. Description

Other Resistors

Part No.

RS1/16SS###J

CAPACITORS

C 6001
C 6004
C 6008,6015,6016
C 6009-6011,6013,6014

CKSSYB102K50
CCSSCH150J50
DCH1201
CKSSYB104K10

CAPACITORS

C 6201-6204
C 6205
C 6207,6208,6210-6222
C 6209,6223,6249
C 6224-6248,6250-6253

CKSSYB471K50
BCG1059
CKSSYB104K10
DCH1201
CKSSYB104K10

Block Name: 7404 FLASH BLOCK(EH)**SEMICONDUCTORS**

IC 6401
IC 6402
D 6401

TC74VHC02FTS1
PST3628UR
1SS352

RESISTORS

R 6457-6466
R 6467
Other Resistors

RAB4CQ472J
RAB4CQ103J
RS1/16SS###J

CAPACITORS

C 6401
C 6402-6405
C 6406

CKSSYB103K16
CKSSYB104K10
CKSSYB473K16

Block Name: ARIA 0 BLOCK(EH)**SEMICONDUCTORS**

IC 6501

PD6568A

MISCELLANEOUS

L 6501-6503 CHIP BEEDS FILTER
L 6504,6505 CHIP BEEDS FILTER
L 6506-6509 INDUCTOR
⚠ X 6501 CRYSTAL (27 MHz)

BTX1042
BTX1039
LCYC1R0K1608
ASS1225

RESISTORS

R 6501-6504
R 6506
R 6514,6515
Other Resistors

RS1/10SR0R0J
RAB4CQ220J
RAB4CQ103J
RS1/16SS###J

CAPACITORS

C 6501,6504-6513,6518
C 6502,6514,6523
C 6517
C 6525-6528
C 6576

CKSSYB104K10
DCH1201
CCG1232
CKSSYB104K10
CCSSCH120J50

C 6577
C 6578,6580-6587
C 6589-6608,6610-6614

CCSSCH150J50
CKSRYB105K10
CKSRYB105K10

Block Name: ARIA 1 BLOCK(EH)**RESISTORS**

R 6602
R 6603,6604,6607
R 6609-6611
R 6613-6627,6629,6630
R 6628

RS1/8SQ0R0J
RS1/16SS2201F
RS1/16SS2201F
RAB4CQ220J
RAB4CQ121J

Other Resistors

RS1/16SS###J

CAPACITORS

C 6615
C 6616-6629
C 6634

DCH1201
CKSSYB104K10
CKSRYB105K10

Block Name: 7404 1 BLOCK(EH)**SEMICONDUCTORS**

IC 6102

LP2995M

MISCELLANEOUS

L 6101 INDUCTOR
L 6103 CHIP BEEDS FILTER
L 6111-6118 CHIP BEEDS FILTER
F 6101-6113 FERRITE CORE
⚠ X 6101 CRYSTAL RESONATOR (54 MHz)

LCTAW2R2J2520
BTX1042
BTX1042
VTF1084
BSS1134

RESISTORS

R 6133,6134
R 6156,6157
Other Resistors

RS1/10SR3010F
RAB4CQ472J
RS1/16SS###J

CAPACITORS

C 6101,6102,6180-6183
C 6103,6104
C 6105,6106,6109-6112
C 6113,6114
C 6115,6118-6120,6123

BCG1059
CCSSCH120J50
CKSSYB103K16
CCSSCH8R0D50
CKSSYB103K16

C 6116,6117,6188,6189
C 6121,6122,6125,6128
C 6124,6126,6127
C 6129,6134,6135
C 6130-6133

ACG1122
CKSSYB102K50
CKSSYB103K16
CKSSYB102K50
CKSSYB103K16

C 6136,6137
C 6139-6158,6161-6164
C 6159,6160,6165,6168
C 6166,6167,6170-6173
C 6169,6174,6175,6187

CEHVAW331M6R3
CKSSYB104K10
DCH1201
CKSSYB104K10
DCH1201

C 6176-6179,6184-6186
C 6190
C 6191,6192

CKSSYB104K10
CCG1232
CKSSYB104K10

Block Name: 7404 DDR BLOCK(EH)**SEMICONDUCTORS**

IC 6201-6204

EDD5116AFTA-5B-E

MISCELLANEOUS

L 6201,6202 CHIP BEEDS FILTER

BTX1042

RESISTORS

R 6259-6262,6283
R 6263,6267-6269
R 6264-6266,6270,6284
R 6271-6282,6286-6290
R 6285,6291-6295,6301

RAB4CQ510J
RAB4CQ220J
RAB4CQ101J
RAB4CQ220J
RAB4CQ101J

R 6296-6300,6302-6309
R 6310,6311,6315,6316
R 6312-6314

RAB4CQ220J
RAB4CQ101J
RAB4CQ220J

5	6	7	8		
Mark No.	Description	Part No.	Mark No.	Description	Part No.
Block Name: ARIA MEMORY BLOCK(EH)			F 7001	FERRITE CORE	VTF1091
			⚠ X 7001	CRYSTAL (27 MHz)	ASS1225
SEMICONDUCTORS			RESISTORS		
IC 6702-6704		EDD1232ABBH-5C-E	R 7001		RS1/8SQ0R0J
RESISTORS			R 7026-7028		RS1/16SS2000D
R 6701-6703		RS1/8SQ0R0J	R 7029,7036		RS1/16SS6200D
R 6745-6780		RAB4CQ470J	R 7033		RS1/16SS3300D
Other Resistors		RS1/16SS###J	R 7035		RS1/16SS2200D
CAPACITORS			R 7060-7066,7068,7071		RAB4CQ680J
C 6701-6707		CKSSYB104K10	R 7067,7070,7073,7074		RAB4CQ103J
C 6708,6710,6712,6714		DCH1201	R 7069,7083,7084		RAB4CQ101J
C 6718		CKSSYB103K16	R 7072		RAB4CQ221J
C 6722-6745		CKSRYB105K10	R 7075		RAB4CQ220J
Block Name: IF UCOM BLOCK(EH)			R 7081		RAB4CQ222J
SEMICONDUCTORS			R 7087-7091		RAB4CQ101J
IC 6801		PST3628UR	Other Resistors		RS1/16SS###J
IC 6802-6804		TC74VHC126FTS1	CAPACITORS		
IC 6806		TC74VHC00FTS1	C 7001,7003-7011		CKSRYB105K10
Q 6801-6803,6813,6814		DTC124EUA	C 7014		CKSSYB102K50
Q 6804,6805		2SC4081	C 7029,7030		CCSSCH100D50
			C 7031,7032		CCSSCH470J50
Q 6806,6807,6811		2SA1576A	C 7035-7040,7043		CKSSYB104K10
Q 6808		DTA124EUA			
Q 6809,6810		HN1C01FU	C 7041,7044,7049		DCH1201
Q 6812		RN1902	C 7045-7048,7050,7051		CKSSYB104K10
D 6801-6805		1SS352	C 7053		CKSSYB103K16
MISCELLANEOUS			Block Name: EMMA2 MEM. BLOCK(EH)		
⚠ X 6801	CERAMIC OSCILLATOR	CSS1616	SEMICONDUCTORS		
⚠ X 6802	CRYSTAL OSCILLATOR (32.768 kHz)	ASS1212	IC 7201		EDD5116AFTA-5B-E
RESISTORS			IC 7203		LP2995M
R 6802		RS1/8SQ0R0J	MISCELLANEOUS		
R 6880,6885		RAB4CQ103J	L 7201	CHIP BEEDS FILTER	BTX1042
R 6883		RAB4CQ473J	RESISTORS		
R 6884		RAB4CQ471J	R 7213		RS1/16SS1500F
Other Resistors		RS1/16SS###J	R 7243-7246		RAB4CQ680J
CAPACITORS			R 7247-7254,7256		RAB4CQ220J
C 6801		CKSSYB102K50	R 7255,7267		RAB4CQ103J
C 6802		CKSSYB472K16	R 7260,7261,7268-7270		RAB4CQ560J
C 6803,6804		CKSSYB471K50			
C 6805,6806		CCSSCH8R0D50	R 7272-7275		RAB4CQ101J
C 6807,6809,6814		CKSSYB104K10	Other Resistors		RS1/16SS###J
C 6808,6825		DCH1201	CAPACITORS		
C 6810		CKSSYB103K16	C 7201		CKSRYB105K10
C 6817-6824		CKSSYB104K10	C 7202-7204		BCG1059
Block Name: EMMA2 BLOCK(EH)			C 7205,7206,7225		DCH1201
SEMICONDUCTORS			C 7207-7219,7223		CKSSYB104K10
IC 7002		TC74VHC08FTS1	C 7226		CEHVAW331M6R3
IC 7003		UPD61123F1-100KA3A	Unit Name: CARD ASSY(EU HD)		
IC 7004		BR24L64F-W	Block Name: BOARD IF CARD BLOCK		
IC 7005		TC7WHU04FU	MISCELLANEOUS		
IC 7006		TC74HC4066AFT	CN 8801	L-PLUG(9P)	KM200NA9L
Q 7001		2SJ461A	CN 8803,8804	50P CONNECTOR	AKM1399
Q 7002,7003		DTC124EUA	RESISTORS		
Q 7005		SSM6N17FU	R 8806,8807		RAB4CQ221J
Q 7010		UMD2N	Other Resistors		RS1/16SS###J
D 7010		1SS301			
MISCELLANEOUS					
L 7001,7002	CHIP BEEDS FILTER	BTX1042			

Mark No. Description Part No.

Block Name: POWER CARD 0 BLOCK

SEMICONDUCTORS

IC 8901 LNBH23PP/1B
 IC 8902 BD8624EFV
 IC 8903,8904 MM1593DF
 IC 8908,8909 AAT4610AIGV-1
 Q 8902,8910-8913 RT1N241M

Q 8903 2SC4081
 Q 8907 RT1P241M
 Q 8908 RT3T22M
 Q 8909 RTQ045N03
 D 8901 1SS352

D 8910 D1FM3
 D 8911,8912 RB520S-30
 D 8913 RB060M-30
 D 8914 TDZ5R1

MISCELLANEOUS

L 8901 CHIP INDUCTOR (2.2 uH) ATH1244
 L 8902 CHIP BEEDS FILTER BTX1042
 L 8903 CHIP BEEDS FILTER BTX1039
 L 8904 INDUCTOR CTH1254
 L 8906 INDUCTOR ATH1235

L 8980 INDUCTOR (270 uH) ATH1242

RESISTORS

R 8901,8905-8909,8964 RS1/8SQ0R0J
 R 8911,8919 RS1/4SA101J
 R 8918 RS1/4SA150J
 R 8944 RS1/16SS1003D
 R 8945,8948 RS1/16SS3302D

R 8967,8968 RS1/8SQ0R0J
 Other Resistors RS1/16SS###J

CAPACITORS

C 8901-8903 ACH1495
 C 8904-8906,8913 CKSRYB104K50
 C 8907,8908 CKSRYB104K25
 C 8909,8912 CKSRYB224K16
 C 8911 CKSRYB682K50

C 8916,8917,8923,8924 CKSRYB105K10
 C 8921,8922 BCG1059
 C 8925,8926 CKSSYB103K25
 C 8928,8934 CKSSYB471K50
 C 8932 CKSSYB223K16

C 8933,8958,8959,8963 CCSSCH101J50
 C 8937 CEHVAW100M35
 C 8942,8943,8951,8952 DCH1201
 C 8945,8949 DCH1165
 C 8947,8948 CKSRYB104K16
 C 8964 CCSSCH101J50
 C 8965,8966 CKSSYB104K10

Block Name: DVB S2 TUNER BLOCK

SEMICONDUCTORS

IC 9102 STV-0903
 D 9101 1.5SMC24A
 D 9103 RB060L-40

MISCELLANEOUS

L 9101 CHIP BEEDS FILTER BTX1042
 F 9101 FERRITE CORE VTF1080

Mark No. Description Part No.

△ X 9101 CRYSTAL (27 MHz)
 △ U 9101 FE

RESISTORS

R 9101,9120,9123 RS1/8SQ0R0J
 R 9116 RS1/10SR103J
 R 9148 RAB4CQ103J
 R 9149,9150 RAB4CQ470J
 Other Resistors RS1/16SS###J

CAPACITORS

C 9101,9159 BCG1059
 C 9102-9106,9113 CKSSYB103K16
 C 9114 CKSSYB102K50
 C 9116,9117 CCSSCH120J50
 C 9125-9136,9140-9154 CKSSYB103K16

C 9155,9158 CEHVAW101M6R3
 C 9160-9163,9165 CKSSYB104K10
 C 9166-9179 CKSSYB103K16

Block Name: TS SELECT BLOCK

SEMICONDUCTORS

IC 9201-9203 TC74LCX157FTS1
 IC 9204,9205 TC74LCX541FTS1

RESISTORS

R 9203,9204 RAB4CQ473J
 R 9221,9224 RAB4CQ151J
 R 9226,9227 RAB4CQ470J
 Other Resistors RS1/16SS###J

CAPACITORS

C 9201-9205 CKSSYB104K10

Block Name: CIMAX BLOCK

SEMICONDUCTORS

IC 9301-9304 TC74VHCT373AFT
 IC 9305 TC74VHC08FTS1
 IC 9306 CIMAXSP2L
 IC 9307,9310,9313 TC74VHC32FTS1
 IC 9308,9309 TC74VHCT541AFTS1

IC 9311,9312 TC74VHCT245AFTS1
 Q 9301-9304,9307,9308 RT1N241M

RESISTORS

R 9301,9302,9375 RS1/8SQ0R0J
 R 9336,9337 RAB4CQ103J
 R 9338,9355 RAB4CQ331J
 R 9339,9341,9345-9348 RAB4CQ470J
 R 9340,9343,9349,9351 RAB4CQ680J

R 9342,9344 RAB4CQ151J
 R 9350,9352-9354,9357 RAB4CQ101J
 R 9356,9358-9374,9406 RAB4CQ470J
 R 9376-9383 RAB4CQ220J
 R 9384-9387 RAB4CQ104J

R 9407,9410,9411 RAB4CQ470J
 Other Resistors RS1/16SS###J

CAPACITORS

C 9301 CKSSYB102K50
 C 9302-9304,9307,9308 CKSSYB104K10
 C 9305,9306 DCH1201
 C 9309,9316 CKSRYB105K10
 C 9310-9315,9318-9324 CKSSYB104K10

5	6	7	8
Mark No.	Description	Part No.	
Block Name: CI SLOT BLOCK			
<u>MISCELLANEOUS</u>			
JA 9451,9452	PC CARD CONNECTOR	AKP1333	A
<u>RESISTORS</u>			
All Resistors		RS1/16SS###J	
<u>CAPACITORS</u>			
C 9451,9452		CEHVAW470M16	
C 9459,9460		DCH1201	
Block Name: PC BLOCK			
<u>SEMICONDUCTORS</u>			
IC 9601		TC74VHC08FTS1	B
IC 9602		BR24L01AFJ-W	
Q 9601		RT1N241M	
D 9601		1SS301	
<u>MISCELLANEOUS</u>			
CN 9601	15P D-SUB SOCKET	AKP1214	
CN 9602	FFC CONNECTOR 12P RA	AKM1388	
<u>RESISTORS</u>			
R 9605		RAB4CQ473J	
R 9606,9607		RAB4CQ101J	
R 9608		RAB4CQ222J	
Other Resistors		RS1/16SS###J	C
<u>CAPACITORS</u>			
C 9604		DCH1201	
C 9605		CKSSYB104K10	
			D
			E
			F